The Electronic Information Industry in Canada

Volume I: Survey Results

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EXECUTIVE SUMMARY

The present study was undertaken as a first step in better understanding the online information marketplace in Canada. While qualitative, results suggest that the Canadian market is lagging compared to the U.S. market.

The project was completed in two phases. In Phase I, telephone interviews were conducted with 57 users of online information from large organizations representing a variety of economic sectors. In Phase II, 97 telephone interviews were conducted with librarians, marketers and financial analysts from 42 organizations in potentially "low use" sectors. In both Phase I and II, establishments were selected from the FP500 list of companies, or were considered to represent leading organizations within their sectors.

Phase I identified that the online information market *among users* in Canada is relatively healthy:

> Users today access a wide range of services -- both Canadian and U.S. -- to meet their varied information needs.

> Almost all users are satisfied with the services that they currently use.

> Users expect to increase their use of Canadian suppliers as coverage of Canadian information increases. However, information which is global in nature (e.g. scientific & technical) will increasingly be accessed through U.S.-based suppliers.

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> Users currently believe that electronic information is somewhat overpriced (Phase I), but affordable (Phase II). The fact that so much information in Canada is available at no charge, or at cost, makes it more difficult to educate decision makers in the price/value of information, including electronic information. Users expect only moderate growth in expenditures for online information over the next few years.

> The market for specific types of information apparently varies between Canada and the U.S. The demand for corporate and economic information may represent a larger part of the total market in Canada. On the other hand, business and consumer credit information is relatively more important in the U.S. market.

Real industry growth will occur by stimulating use among current *non-users*. Certainly, the findings of Phase II suggest that current penetration, even among the FP500, is lower than would be expected at this stage of the industry's development.

> The way in which information is organized and made available within an organization may reflect its perceived value. Information specialists -- i.e. librarians -- did not exist in almost two thirds of the companies/organizations contacted in Phase II. The infrastructure for use of information may be different in organizations in Canada vs the U.S.

> Where they exist, librarians in large organizations are typically users of online services. On the other hand, penetration among financial analysts and marketers is low, especially when compared to U.S. data on these end-user segments.

> More than experience or awareness, *attitudes* toward information usage and electronic information services were critical in differentiating non-user groups. The most significant factors are

- › The perceived demand for information within the organization.
- › The expectation that the budget for information will increase.
- › The perception that the costs of electronic information are affordable.
- › The perception that electronic information is relevant.

> Non-users typically see dramatic change in their use of information over the next five years. This includes increased penetration of PCs/workstations, increased use of more targeted sources of information, and increased use of online or other electronic information services.

> This study suggests that there is demand for specialized databases and more Canadian content. However, there appears to be a lack of the critical mass necessary to support the development and marketing of very specialized databases to a unique Canadian market. This contrasts with the U.S. market where specialized vendors have emerged to capitalize on niche market opportunities.

> A lack of critical mass also inhibits supply-side factors (such as investment in R&D) that, in turn, influence current and future use.

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Section 1:
Purpose

1. PURPOSE

Much has been said about the relative state of the Canadian online information marketplace. Forecasts vary widely, but usually predict phenomenal growth over the remainder of the decade. However, analysts typically consider the industry in Canada to be lagging compared to the U.S. market.

There are several reasons that explain why the online information marketplace in Canada is particularly difficult to assess. As one Canadian vendor described it --

> "There are so many different facets of this industry. There is a complete matrix including a wide selection of data types, a wide spectrum of industries and a wide spectrum of functional areas within companies. Therefore, it's not possible to estimate market size without studying this fully."

In the U.S., the online information marketplace can be defined largely by the use of U.S.-based services, and supplier-side surveys are appropriate to quantify the market. In Canada, users rely on both national and international (especially U.S.) services, and estimates of market size based only on Canadian suppliers are inadequate. In addition, the market is highly competitive and led primarily by privately-held companies. As a result, accurate revenue figures are very difficult to obtain.

To make appropriate policy decisions in this area, it is essential for government organizations to understand the dynamics of the online information marketplace in Canada. This study was undertaken by IDC Canada as a first-step toward obtaining a realistic view of this market.

Ultimately, a quantitative evaluation of market sizes that allows direct comparison with the U.S. market may be appropriate. However, this approach is resource-intensive. Instead, a preliminary evaluation of the market was undertaken, in two phases, as the appropriate first stage in the analysis.

The present study of the Canadian market is therefore limited in scope. The objective of the study was to provide a qualitative assessment of the Canadian online information marketplace, including:

> A qualitative assessment of relative market sizes in Canada versus the U.S.

> Key online information sources within each sector

> Inhibitors to use of online information among non-users.

Since supplier-side surveys are considered inadequate, this study focussed on the Canadian market from the perspective of users and non-users. To provide a basis for comparison, the framework for the analysis is a recent report published by LINK Resources, a subsidiary of IDC, entitled "Electronic Information Industry Forecast, North America, 1986-1991".

Section 2:
Definitions & Scope

2. DEFINITIONS & SCOPE

The definitions used in this study are consistent with those used by LINK Resources.

Electronic information is information which has been converted into electrical energy and digitally encoded for storage, delivery and display. It covers electronic information products delivered via the following media:

> Online interactive;

> Online broadcast;

> CD-ROM and other optical media;

> Audiotex or interactive voice;

> Magnetic tape and cartridges;

> Floppy magnetic diskette.

Online interactive services are distinguished from online broadcast services by the ability of the user to effect direct upstream communication with the online host. While online broadcast services do not provide for direct upstream communication, they are included here if they present an aspect of interactivity at the user interface.

The focus of this study is online information services which:

- Are utilized interactively;
- Are offered publicly (although purchase may be limited to a class of professional organization);
- Are accessed and purchased by users in Canada;
- Maintain rigorous editorial standards and/or perform substantial value-added processing on contributed data.

Examples of services which are not included are:

- Mailing list services, because they are not used interactively;
- Broadcast television, for the same reason;
- Newswire services, wherever they are not offered interactively, e.g., via teleprinter;
- Customized hardcopy printouts or live recitations from electronic databases which are not generated through direct customer interaction with the database;
- Value-added database access via timesharing bureaus or inhouse where access is not public;
- Special interest groups, "chat" services, or other forms of messaging and computer conferencing, because they lack editorial packaging, or value added processing, or both;
- Microfiche or hardcopy information products.

LINK Resources segments the market from four different perspectives: information type, job function, industrial classification and distribution technology. These same categories are discussed to a somewhat more limited extent in this report.

The electronic information industry has been divided into various categories of Information Types:

> Vertical Market Information includes databases which were developed to support or monitor the operations of a specific vertical market or industry plus a few distribution services that are directed at the external information needs of selected vertical markets. Major categories in the vertical market operational category (VMO) include transportation, insurance, library and real estate. Smaller VMO categories cover agriculture, construction, energy, pharmacy management, and weather.

> Credit Information includes the sub-categories of consumer and business credit data.

> Financial and Economic Information encompasses a wide range of data and services including securities, commodities, foreign exchange & money markets, fundamental corporate information, and economic data.

> Marketing and Media Information includes audience assessment, demographic databases, product movement, and product information.

> Legal and Government Information is comprised of legal, legislation & government, and patents and trademarks databases.

> News is made up of wire services, newspapers & magazines, newsletters, and other sources from global to specific news.

> Scientific Information includes materials of life sciences (with emphasis on biomedical sciences, pharmaceuticals, and health care), chemistry, earth science, physical sciences, social science & the humanities. The data is still largely bibliographic.

Each of these categories are defined by subsegment in Section 6 of this report.

The online industry consists of three principal groups of players: information providers, database producers or publishers, and database distributors, retailers or vendors. Briefly defined,

> Information providers are the organizations that originate or create information.

> Database producers or publishers are the organizations responsible for the creation, processing and updating of databases in electronic form, using information supplied by information providers.

> Database retailers or vendors store data and information bases created by others or themselves on their host computers and provide access links through computer terminals, software and communications services to subscribers.

As noted, this study includes databases that are accessed and purchased by users in Canada. For the purposes of this study, Canadian-based services are defined as those residing on a central processor located in Canada. Canadian-based vendors are those that primarily produce or market services that reside on a database in Canada, although they may also market U.S. services. U.S-based vendors primarily produce or market those services that reside on a processor in the U.S.

Throughout the report, standard industry terminology has been used to define "users" and "non-users". That is, users are those that access the data directly, through appropriate communications channels. Non-users do not access the data directly, although they may receive the output via other media (e.g. print).

Section 3:

Phase I

3. PHASE I

3.1 Methodology

3.1.1 Objectives

The key objectives of Phase I included:

- A qualitative assessment of relative market sizes for online information in Canada versus the U.S.
- Key information sources within each economic sector.

3.1.2 Scope

The study included qualitative analysis of:

- Use by category of online information
- Growth in online information categories
- Online information services/vendors used today
- Use of Canadian- versus U.S.-based services/vendors
- Average monthly expenditures for online information
- Distribution of use by electronic media
- Attitudes toward the cost of online information
- Level of satisfaction with current sources of online information

3.1.3 Method

Phase I was based on the results of a telephone survey of 57 users of online information. The survey was conducted during December 1987 and January 1988 from the Toronto office of IDC Canada. All interviews were conducted in English. A copy of the Phase I telephone interview questionnaire appears as Appendix A.

In addition to the 57 completed interviews, another 32 organizations were contacted where qualified users of online information could not be located. These organizations were targeted for follow-up in Phase II.

3.1.4 Sampling Method

Since the study was qualitative in nature, no attempt was made to obtain a random sample that was representative of online information users in Canada. Rather, every attempt was made to ensure that a cross-section of economic sectors was represented in the user interviews.

Large companies and leading organizations within each sector were considered to be among the most likely to use online information. Thus, sources for Phase I sample selection included:

> The Financial Post list of the top 500 companies in Canada

> Industry associations

> Well-known organizations within specific economic sectors (e.g. health care; education/non profit).

3.1.5 Composition of Respondents

Job Title

In pretests, IDC attempted to locate end-users of online information by targeting job functions that typically have a need for specific information categories (e.g. locating marketing managers with a potential need for audience assessment data). This method of locating end-users proved unsuccessful. After considerable searching within the organizations, those with a need for this type of data could be found, but they were not online users.

As a result, the key respondents for Phase I typically included information resource centre personnel and librarians. These individuals were:

> most likely among potential respondents within the organization to be users of online information

> typically most knowledgeable about the types of information used within the organization

> most knowledgeable about the budget for online information.

> relatively easy to locate by job title

Type of Organization

The distribution of respondents by source is shown in Table 1.

Table 1

Distribution of Respondents by Source

Type of Organization		# of R	% of R
FP500		45	79%
Non FP500			
	Leading within Sector	8	14%
	Non Profit/ Education	3	5%
Associations		1	2%
Total		57	100%

Geographic Distribution

Since a small number of personal interviews were considered a possible next-step in the analysis, organizations were drawn primarily from large metropolitan centres, especially Toronto. The distribution by geographic region is shown in Table 2.

Table 2

Geographic Distribution of Respondents

Region	**# of Org.**	**% of Org.**
British Columbia	2	4%
The Prairies	2	4%
Ontario	45	79%
Quebec	8	14%
Total	57	*100%

*May not add to 100% due to rounding

3.1.6 Areas of Questioning

Respondents in Phase I were asked to speak, to the extent of their knowledge, on the use of online information within their company or organization, rather than their own personal use of online information.

They were asked to describe **separately**:

> The categories of online information purchased by their company or organization

> Their suppliers of online information services

> Spending for online information services.

More detailed questioning may have determined specific spending by vendor/supplier and by category of information. However, this level of detail was considered beyond the scope of this preliminary analysis, especially given the additional information requirements (i.e. future use of online services) considered in Phase I.

3.2 Overview of Results

3.2.1 Distribution of Respondents

Economic Sector

Table 3 provides the total number of organizations contacted during Phase I by economic sector, and the extent to which online users were located.

Users were invariably found within organizations in the financial sector -- banks and trust companies, insurance, and investment banking/management/brokerage. This sector is also a high use group in the U.S. in terms of 1986 subscription rates and revenues.

As well, users in this study were readily located in advertising and market research firms, whose core businesses rely heavily on current demographic and marketing information. However, based on the relative size of this industry sector in the total distribution of businesses, this group tends to comprise a relatively small part of the total U.S. market in terms of subscriptions and revenues.

Consistent with U.S. findings, users were not located in the lodging & food services, freight transportation and the consumer electronics/ appliances sectors, even though large corporate entities were targeted.

Table 3

Distribution of Users By Economic Sector

Economic Sector	**#Organizations Contacted**	**#Users Located Per Sector**	**#Users Not Located Per Sector**
Advertising Agencies and Market Research	5	5	0
Banks and Trust Companies	5	5	0
Education & Non-profit	7	4	3
Insurance	4	4	0
Investment Banking/Management/Brokerage	4	4	0
Legal & Accounting Services	7	4	3
Energy/Fuel	4	3	1
Food & Beverage	3	3	0
Agriculture	5	2	3
Chemical & Drugs	2	2	0
Entertainment	3	2	1
Health Care	5	2	3
Metals & Metalworking & Machinery	2	2	0
Paper & Forest Products	2	2	0
Retailing	3	2	1
Transportation (Passenger)	2	2	0
Aerospace/Aviation	1	1	0
Automotive	1	1	0
Construction & Building Materials	3	1	2
Containers & Packaging	3	1	2
Household & Personal Care Products	2	1	1
Office Equipment & Computers	1	1	0
Publishing/Printing	2	1	1
Telecommunications	1	1	0
Other (Real Estate)	1	1	0
Lodging & Food Service	3	0	3
Transportation (Freight)	3	0	3
Consumer Electronics	2	0	2
Industrial Conglomerates	2	0	2
Credit Card	1	0	1
Total	89	57	32

Government users were not addressed in this study. With the number of departments that use or could potentially use online information services, inclusion of a small number of representatives was considered inadequate.

3.2.2 Usage by Categories of Online Information

Major Information Categories

Based on reported revenues by suppliers, LINK identifies market share by major market category in the U.S. as follows (Table 4):

Table 4

Online Information Market Share
(by Major Information Type)

	1986	1991	Change
Vertical Market/Operational	25.9%	22.8%	-3.1%
Credit	25.0%	19.8%	-5.2%
Financial & Economic	21.7%	27.4%	5.7%
Marketing & Media	13.9%	15.3%	1.4%
Legal & Government	5.6%	6.3%	.7%
News	5.0%	5.3%	.3%
Scientific	2.8%	2.9%	.1%

In 1986, vertical market/operational represented 26% of the North American (primarily U.S.) electronic information marketplace, generating $1.16B in revenue. Major applications include transportation, insurance, library and real estate, with smaller categories including agriculture, construction, energy, pharmacy management and weather.

Consumer and business credit comprise a second major component of the market for electronic information services.

However, it is the financial and economic category which is considered to show a "burst in growth" between 1986 and 1991 to take the major market share with revenues of $3B.

No comparable data (i.e. revenues) were collected in this study of the Canadian market. However, Table 5 provides the distribution of all mentions of types of information by these same Major Market Categories.

Table 5

Major Information Categories
(% of All Mentions)

Category of Information	**U.S.** (Share of 1986 Rev)	**Canada** (% of All Mentions)
Vertical Market/Operational	25.9%	7%
Credit Information	25.0%	10%
Financial & Economic	21.7%	31%
Marketing & Media	13.9%	20%
Legal & Government	5.6%	16%
News	5.0%	10%
Scientific	2.8%	6%

As LINK identified, cost per subscription is the critical factor that separates reports of use (i.e. frequency of mention) from importance in terms of revenue. For example, while news is purchased by more people than any other type of information in the U.S., the average spending per subscription (and thus overall revenue) is relatively low.

However, given their importance in terms of revenues in the U.S., it is significant that vertical market/operational information and credit information were mentioned much less frequently by these Canadian users.

Alternatively, Canadian users already depend on online financial & economic data. As well, marketing & media, and legal and government information were mentioned more frequently than would have been expected based on U.S. data.

Information Types

The frequency of mention of specific types of information services by respondents in Canada appears in Table 6 and Figure 1.

Table 6

Distribution of Mentions of Use By Type of Information

Type of Information	**Number of Mentions**	**% of All Users**
News	37	65%
Corporate Information	34	60%
Economic	33	58%
Business Credit	25	44%
Product Information	25	44%
Demographic	24	42%
Legislative & Government	22	39%
Scientific	22	39%
Legal	20	35%
Foreign Exchange & Money Markets	19	33%
Patents & Trademarks	18	32%
Vertical Market/Operational	17	30%
Securities	16	28%
Product Movement	15	26%
Consumer Credit	14	25%
Commodities	13	23%
Audience Assessment	9	16%
Real Estate	8	14%
Other*	1	2%

* By respondent in Household & Personal Care Products sector.

General business information such as news and corporate information were mentioned by the majority of users, consistent with LINK data on the number of individual subscriptions to these services in the U.S.

Widespread use of seemingly "industry specific" information across organizations is also apparent. For example:

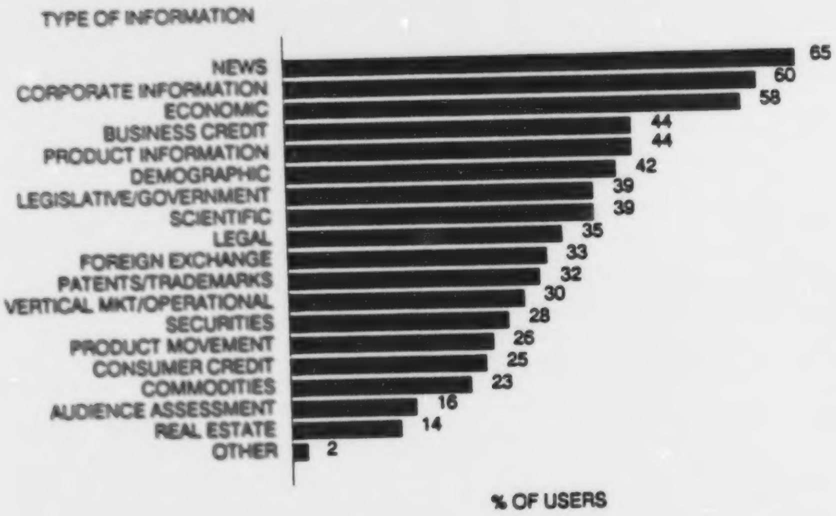
> While only 4 organizations from the legal & accounting sector were included in the study, 20 users (35%) reported use of legal databases.

> While 5 organizations represented the advertising agency/market research sector, 9 organizations mentioned the use of audience assessment data.

There are obviously a variety of information needs served by online information services within large organizations. These needs are apparently related more to the functions performed within the organization than the functions performed by the organization.

Figure 1

Frequency of Mention By Information Type
(% of All Users)



The number of mentions of use by specific information category allows a second, albeit qualitative, comparison of the U.S. and Canadian markets. As noted, Figure 1 shows usage by information type for the Canadian market. Figures 2 & 3 show the use of information types measured by individual subscription and company subscription (respectively), identified in the LINK Report.

Figure 2

Type of Information Used by Individual Subscribers (U.S.)

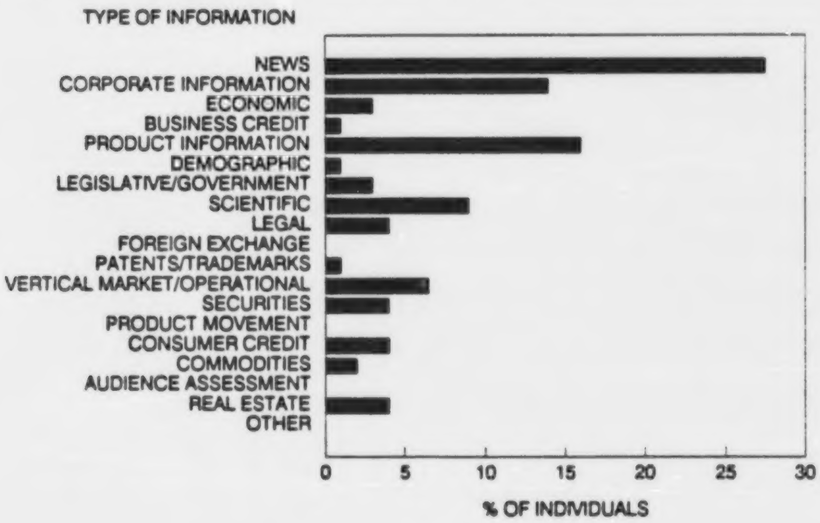
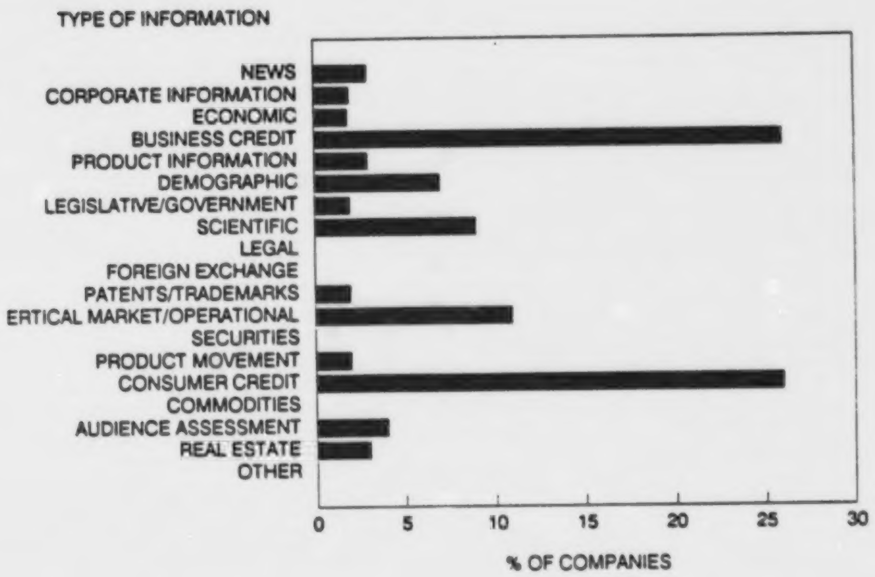


Figure 3

Use of Information by Company Subscriptions (U.S.)

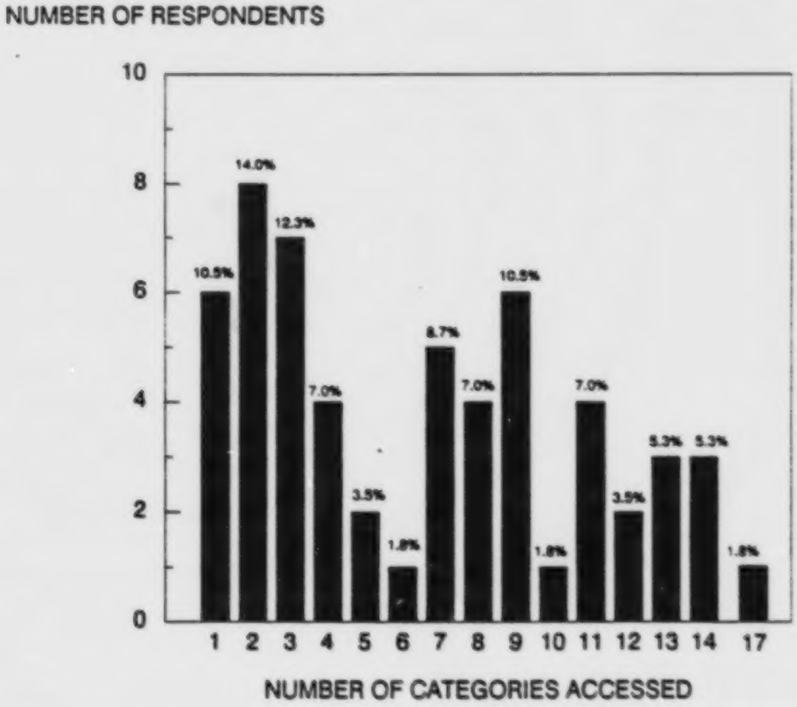


The Canadians in this study mentioned use of almost every category of information to a greater extent than would have been predicted by the U.S. data, especially corporate and economic information. On the other hand, business and consumer credit may play a more important role in the U.S. market.

The average number of categories of online information mentioned by respondents was 6.5. The distribution of respondents by number of categories is shown in Figure 4.

Figure 4

Distribution of Respondents by Number of Categories of Online Information Accessed



3.2.3 Growth by Information Category

Users were asked what information categories they expected to add over the next five years.

Interestingly, respondents generally expected no major changes in the categories of information that their organizations were likely to access, with only 27 total mentions of new information types. As well, no information category was mentioned by more than three users, suggesting that usage of specific categories will remain relatively stable in the foreseeable future (Table 7).

Table 7

Frequency of Mention of New Information Types

No. of Mentions	Information Type
3	Corporate Information
3	News
3	Real Estate
3	Securities
2	Demographic
2	Economic
2	Legislative & Government
2	Vertical Market/Operational
2	Other
1	Commodities
1	Foreign Exchange & Money Market
1	Legal
1	Product Information
1	Scientific
27	Total

The fact that there were relatively few mentions of additional information categories does not imply that use within specific types of information will not increase. However, the data suggest that the range of online information services currently available is generally sufficient to serve users' needs, and that job functions are specific enough that diversity is unlikely in terms of type of information.

A note of caution in this interpretation is advised. In studies of this nature, "future intentions for purchase" is extremely difficult for users to assess, especially when they lack hands-on experience with the alternatives available.

3.2.4 Information Services Used

Major Vendors

A total of 67 separate database vendors and services were mentioned by the 57 respondents. The majority of these were related to specific job or economic sector functions, and were mentioned less than 5 times (including 38 single mentions). Thirteen vendors were mentioned by five or more respondents (Table 8).

Table 8

Frequency of Mentions of Specific Database Vendors or Services

Number of Mentions	Number of Services
5 or more	13
4	2
3	4
2	10
1	38

The use of such varied databases (like the data related to use of new information types) suggests that there are not obvious voids that are not being met in today's on-line information environment.

The frequency of mention of specific vendors cannot be suggested to be representative of users in Canada for a variety of reasons:

> The sample in this study is not representative of all users in Canada.

> Users often do not differentiate information providers vs. producers vs. retailers, and more specifically, may not distinguish databases accessed through "gateways" from the vendor distributing the service.

However, those vendors mentioned most frequently are expected to represent the largest players in the Canadian market and are thus presented (alphabetically) in the context of the above caveats:

Canadian Services

CAN/OLE
CSG
Dun & Bradstreet
FP Online
Info Globe
Infomart
IP Sharp
QL Systems

U.S.-based Services

BRS
Dialog
Dow Jones
Mead Data
Pergamon/Orbit

Use of Major Canadian vs. U.S. vendors

Among those services mentioned most frequently (i.e. by 5 or more users), the ratio of total mentions of Canadian vs. U.S. vendors was 2:1, suggesting the very high awareness and visibility of Canadian vendors.

Users were asked to estimate the amount of log-on time and budget spent on Canadian versus U.S. services, as well as how they expected the ratio to change by 1991. Respondents perceive that slightly more than 50% of both time and budget are currently spent on Canadian services. By 1991, use of Canadian services is expected to increase, with log-on time increasing at a somewhat faster rate than spending (Table 9).

Table 9

Use of Canadian vs U.S. Services:

	1987 Cdn/US	**1991 Cdn/US**
Log-on time	55/45	65/35
Budget	53/47	58/42

3.2.5 Average Monthly Expenditures

Spending estimates varied widely between respondents, and many (32%) could not or would not provide spending figures. As well as the usual limitations of a study of this nature in determining budgets, it may also be suggested that:

> When usage is decentralized, the respondent may be aware of the types of services used, but not the amount spent for these services.

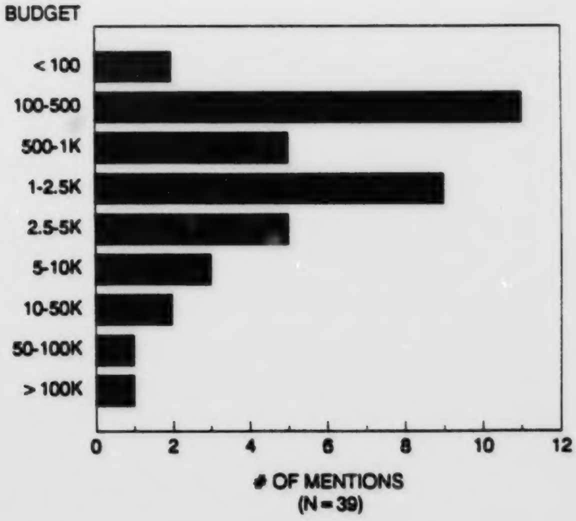
> Budgets for online information services may not be accounted for separate from other information and resources budgets.

Remembering that the organizations contacted for this study represented large entities who were expected to be major online information users, it may not be surprising that the average monthly expenditures for 1987 was reported at $15,950.

However, spending ranges varied from less than $100 to more than $100K (Figure 5), suggesting that average monthly figures are skewed by a small number of users in the upper end of the range. The more realistic spending figure may be the median dollar value, which falls in the range of $1,000 to $2,500 per month.

Figure 5

Monthly Expenditures



Even fewer respondents (22 or 38%) were willing to project their spending to 1991. However, among those that did, the compound annual growth rate was 6% to 8%.

3.2.6 Distribution Media

In addition to online interactive information, magnetic tape was used by a significant number of respondents in this study (21%) (see Table 10). While other alternatives were mentioned less frequently, the use of CD ROM was surprisingly high compared to reported use in the U.S.

Table 10

Distribution Medium

Distribution Medium	**#Mentions**	**% of All Mentions**	**% of Users**
Online Database, Interactive	56	65%	98%
Magnetic Tape	12	14%	21%
CD-ROM	7	8%	12%
Floppy Disk	5	6%	8%
Online Databases, Broadcast	3	3%	5%
Interactive Voice, Audiotex	3	3%	5%
Total	86	100%	

3.2.7 Attitudes Towards the Cost of Online Information

Users were asked to rate online information services on a scale that varied from "very affordable" to "prohibitively costly" (Table 11).

Almost half of users declined to answer the question. Of the remainder, only 6% rated services as affordable, while 94% rated the service from "affordable to somewhat overpriced" to "prohibitively costly". The majority of respondents believed online information services to be "somewhat overpriced".

Table 11

Attitude Toward Cost of Online Information

Attitude	**# of Mentions**	**% of Mentions**
Very Affordable	0	0%
Affordable	2	6%
Affordable to Somewhat Overpriced	5	16%
Somewhat Overpriced	18	56%
Somewhat Overpriced to Prohibitively Costly	2	6%
Prohibitively Costly	5	16%
Total	32 (56% of users)	100%

The data does not suggest that, in fact, online services *are* overpriced -- merely that users *perceive* them to be -- and this was also reflected in the specific comments provided by users. However, a number of users also noted that:

> More education is required in the price/value of on-line information services

> The end-users of information and corporate decision makers are currently not educated in the concept of *paying* for information, given the wealth of information that is apparently available without charge or at cost.

As important, given that these respondents -- representing large organizations who have experience with online information services -- perceive services to be somewhat costly, it may be essential to determine whether this perception of price is a critical factor impacting acceptance by non-users.

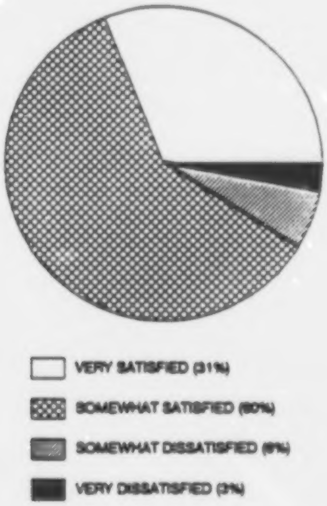
However, of note, users were not asked to rate the prices for online services in relation to the value received -- especially in terms of the variety of tactical and strategic advantages they provide and the gains which they can allow. As is identified in Phase II, although users may rate online services as "somewhat overpriced" on a scale of one to five, services are generally perceived as affordable.

3.2.8 Level of Satisfaction with Current Online Information

Users were asked to identify their level of satisfaction with existing online information by information type. As shown in Figure 6, users are generally satisfied with their current services, with 91% of ratings falling into the categories of "very satisfied" to "somewhat satisfied" across all information types.

Figure 6

Satisfaction Ratings Across All Types of Information
(% of all ratings)



Section 4:
Phase II

4. PHASE II

4.1 Methodology

4.1.1 Objectives

Phase I suggested that the online information market among users in Canada is relatively healthy. Awareness is high, the level of satisfaction is high, and no major voids in information types are obvious. Increased Canadian coverage, as well as software enhancements to improve ease of use, are required, but this direction is consistent with the objectives of online information vendors. While the general perception is that the price of online services may be slightly high, there is no evidence that lowering price will stimulate use.

However, the penetration of use of online services appears lower than would be expected at this stage of the industry's development. Even though a high-use job category (i.e. librarian) was targeted among large and leading organizations in Phase I, users could not be located in 36% of contacted organizations.

The objective of Phase II was therefore to determine the major inhibitors to use among non-users of online information.

4.1.2 Scope

Key areas of investigation in Phase II include:

> The use of specific types of information

> Distribution media

> Frequency of use of sources

> Canadian vs U.S. sources

> Perceptions of online services in terms of price, ease of use, etc.

> The impact of centralized vs decentralized information resource systems

> The impact of penetration of PC's

> Awareness of specific sources of online information

4.1.3 Method

The results of Phase II are based on a survey of 97 respondents representing 42 organizations. As in Phase I, the survey was conducted by telephone, using a brief (10 to 15 minute), structured questionnaire. All interviews were conducted in English. A copy of the questionnaire appears as Appendix B.

The sample was not random, nor considered representative of all non-using organizations in Canada. Instead, target organizations included those where users could not be located during Phase I, and additional organizations representing low-use economic sectors. Again, the focus was on the FP500, or other large organizations that were considered representative of each sector.

IDC attempted to complete three (3) paired interviews in each contacted organization: one with the librarian or information resource centre manager, one with a marketing manager, and one with a corporate financial analyst. These individuals were expected to be among those most likely to be using online information services, based on Phase I results. That is, if users were to be found in these low-use sectors, they would most likely holding "information intensive" job functions such as librarian, marketing manager or financial analyst.

4.1.4 Sampling method

Sample Frame

IDC began by re-examining the list of 32 organizations where users were not located during Phase I.

Fifteen (15) of the original list of 32 Phase I organizations were contacted to determine whether

a. librarians existed on a departmental basis

b. online users with other job functions (i.e. marketing and finance) could be located.

Seventeen (17) organizations from the original list were replaced for the following reasons:

1. Industry associations (where users were not found in Phase I) were replaced by FP500 or other well-known organizations that would be considered more representative of the sector.

2. Organizations were added or replaced to ensure that the results were representative of the sector. For example, the credit card company in Phase I primarily handled transaction processing, while marketing and customer service were handled by financial institutions (already known to be a high use sector). In Phase II, this company was replaced by another credit card company that was independent of financial institutions.

As well, 10 organizations were added to provide a larger base for analysis and comparison.

The final sample was therefore comprised of the following (Table 12):

Table 12

Sample Selection

	Total	**Ph I**	**Phase II**		
	# of Orgs	**Users Not Found**	**From Orig Ph I List**	**Re-placed**	**Added to Sector**
Agriculture	4	3	2	1	1
Construction & Building Materials	2	2		2	
Consumer Electronics	3	2	2		1
Containers & Packaging	2	2	1	1	
Credit Card	1	1		1	
Education & Non-profit	3	3	1	2	
Energy/Fuel	1	1	1		
Entertainment	2	1	1		1
Health Care	3	3	1	2	
Household & Personal Care Products	3	1	1		2
Industrial Conglomerates	2	2	1	1	
Legal & Accounting	3	3		3	
Lodging & Food Services	4	3	2	1	1
Publishing/Printing	2	1		1	1
Retailing	2	1	1		1
Telecommunications	1	0			1
Transportation (Freight)	4	3	1	2	1
	42	32	15	17	10

4.1.5 Composition of Respondents

Job Function

In total, 42 organizations were included in the initial Phase II analysis, for a total of 126 potential completions. However, in 29 instances, respondents with the targeted job function could not be found within the organization.

The job function of librarian was most likely to be "not found" (Table 13). These organizations typically had no centralized facilities for searching for information, and instead used less formal resource centres (e.g. mini-libraries for publications) typically located within various departments. IDC conducted informal interviews with the person responsible for these centres and found that they were invariably managed on a part-time basis by secretaries.

Table 13

No. of Occurrences Where Specific Job Function was Not Found

Central librarians/ Information Resource Personnel	26
Marketing Managers	2
Financial Analysts	1

The occurrences by economic sector are shown in Table 14.

Table 14

No. of Occurrences Where Specific Job Function was Not Found, By Economic Sector

Economic Sector	Total No. of Organizations	# Where Job Function Was Not Found		
		Librarian	Marketing	Finance
Agriculture	4	3		
Construction & Building Materials	2	2		
Consumer Electronics	2	2		
Containers & Packaging	2	2		
Credit Card	1	1		
Education/Non-profit	1	1		1
Energy	1			
Entertainment	2	2		
Health Care	2	1	1	
Household & Personal Care	3	3		
Industrial Conglomerate	1	1	1	
Legal & Accounting	3			
Lodging & Food Services	4	4		
Publishing	1	1		
Retail	1	1		
Telecommunications	1			
Transportation (Freight)	4	2		
Total Not Found		26	2	1
Total Respondent Base	42	16	40	41

Those instances where marketing or finance respondents did not exist represented a clear minority across all sectors, but were a logical extension of the primary activity of the organization. For example, in the industrial conglomerate included in the study, neither a librarian nor marketing manager was located. These functions would be performed in the subsidiary companies owned by this parent. The non-profit organization is well-known but small in terms of staff, with the president managing the financial operations of the company.

Type of Organization

Eighty percent of the organizations surveyed in Phase II are included in the FP500 list. The remaining 20% were well-known organizations representing the following sectors: entertainment (1), credit card (1), household & personal care (1), health care (1), education/nonprofit (3).

Geographic Distribution

The distribution of Phase II organizations by geographic region is shown in Table 15.

Table 15

Geographic Distribution of Organizations

Region	# of Org	% of Org
British Columbia	1	2%
The Prairies	5	12%
Ontario	27	64%
Quebec	9	21%
Total	42	*100%

*May not add to 100% due to rounding

The sample of companies in Phase II was more heavily weighted toward central Canada than would be predicted by the distribution of FP500 companies. This resulted from geographic distribution bias introduced by organizations included in Phase I, and the fact that the sample included a range of economic sectors that are not necessarily evenly distributed geographically.

4.1.6 Areas of Questioning

Based on Phase I results, several hypotheses were developed to explain major inhibitors to use of online information services. These included:

> Individuals are satisfied with their current sources of information, and are not motivated to change from current methods.

> Sources are used infrequently.

> There is a low recognition of the availability of online services.

> There is a low level of awareness of online alternatives to current sources.

> There is a low level of experience with online services and its benefits.

> Organizations that do not have central library facilities are less likely to use online information.

> Users' needs are primarily met through internal information and information that is available free of charge. Non-users consider price of online services to be an inhibitor.

> There is a low penetration rate of PCs/workstations, especially with modems, that makes ease of access an inhibiting factor.

> Non-users hold attitudes that inhibit use, such as perception of price, ease of use, relevance of available online information, etc.

Phase II was intended to test these hypotheses or determine through respondents' other comments what factors might inhibit use, or alternatively, what methods might stimulate use.

4.2 Overview of Results

There are several critical factors affecting the use of online information today.

This study identified the following:

1. Online users differ in several respects from non-users, including the way in which information is organized within their company, the types and sources of information used, and their attitude toward online services.

2. The organization of information within the company -- whether it is centralized in one location or decentralized on a departmental basis -- also has a major effect on the use of and attitude towards information within the company.

3. The attitudes of potential users can be differentiated on the basis of following perceptions:
    - The demand for information within the organization
    - The expectation that the budget for information will increase in the following year
    - The affordability of electronic information services
    - The relevance of electronic information services.

Several other factors were included in the analysis but appear to be much less relevant. This includes previous experience with online services, awareness of specific alternatives to current sources, or the fact that online services have been considered at some point.

As well, attitudes towards ease of use, the likelihood of using based on the financial performance of the company or general economic conditions, marketing efforts of vendors, corporate awareness of online services, and word-of-mouth regarding online services appear much less critical to differentiating potential users than the attitudes noted above.

In this section, a general overview of findings is provided, with these three critical areas presented at length.

4.2.1 Distribution of Respondents

The distribution of respondents (excluding those where specific job functions were not found in the organization) by type of company and job function is shown in Table 16.

Table 16

Completed Interviews by Economic Sector and Job Function of Respondent

Economic Sector	No. of Orgs	No. of Resp	Completed Interviews Libr	Mktg	Fin'l
Agriculture	4	9	1	4	4
Construction & Building Materials	2	4	0	2	2
Consumer Electronics	3	7	1	3	3
Containers & Packaging	2	4	0	2	2
Credit Card	1	2	0	1	1
Education/Non Profit	3	7	2	3	2
Energy	1	3	1	1	1
Entertainment	2	4	0	2	2
Health Care	3	7	2	2	3
Household & Personal Care	3	6	0	3	3
Industrial Conglomerate	2	4	1	1	2
Legal & Accounting	3	9	3	3	3
Lodging & Food Service	4	8	0	4	4
Publishing/Printing	2	5	1	2	2
Retailing	2	5	1	2	2
Telecommunications	1	3	1	1	1
Transportation (Freight)	4	10	2	4	4
Total	42	97	16	40	41

In the methodology section, it was noted that the job function of librarian did not exist in a significant number (62%) of these companies or organizations. In these cases, information is maintained on a local or departmental basis -- typically by a secretary who includes it with other job functions. This finding is significant -- it may reflect not only the way in which available information is organized, but the demand for, or value of, information to these organizations.

4.2.2 Users vs Non-Users of Online Information

Distribution of Users

Twenty of the 97 respondents were users of online information services.

Generally, the penetration of online use across all economic sectors in Phase II was found to be low (Table 17). Penetration within the retail, entertainment and publishing/printing sectors in Canada is substantially lower than would have been predicted by U.S. market data. However, the results of low use in household/personal care products, construction & building materials, and the containers & packaging sectors is generally consistent with U.S. market figures.

Needless to say, this comparison with U.S. data will be somewhat misleading, based on different methods of deriving the data. It is clear that if the extent of online information was equivalent in Canada and the U.S., this study should find higher levels of reported use. It is, after all, the leading companies in Canada that are included in this study, and one can presume that if online information services are not penetrating these companies, they are also unlikely to be penetrating smaller companies in the same economic sectors.

Table 17

Users of Online Information by Economic Sector

Economic Sector	No. of Orgs	No. of Resp	No. of Users	%. of R	No. of Non-Users	% of R
Agriculture	4	9	1	11%	8	89%
Construction & Building Materials	2	4	0	0%	4	100%
Consumer Electronics	3	7	2	29%	5	71%
Containers & Packaging	2	4	0	0%	4	100%
Credit Card	1	2	1	50%	1	50%
Education/Non Profit	3	7	2	29%	5	71%
Energy	1	3	1	33%	2	67%
Entertainment	2	4	0	0%	4	100%
Health Care	3	7	1	14%	6	86%
Household & Personal Care	3	6	0	0%	6	100%
Industrial Conglomerate	2	4	1	25%	3	75%
Legal & Accounting	3	9	4	44%	5	56%
Lodging & Food Service	4	8	1	13%	7	87%
Publishing/Printing	2	5	0	0%	5	100%
Retailing	2	5	0	0%	5	100%
Telecommunications	1	3	2	67%	1	33%
Transportation (Freight)	4	10	4	40%	6	60%
Total	42	97	20	21%	77	79%

Not surprisingly, librarians were most likely to be users (63%) compared to other job functions (Table 18). While this speaks well for the penetration of online services among this group, it must be remembered that the position of librarian did not exist in the majority of the 42 companies contacted. That is, of major companies and organizations across all "low use" sectors, 62% did not have a librarian, 24% had librarians who were online users and 14% had librarians who were not using online services.

Seventeen per cent (17%) of respondents from financial-related job functions were using online information, although it is in the transportation (freight) sector that users were concentrated. In this sector, they were the most likely of job categories to be using online information. In other sectors, penetration of online services is low.

Across all sectors, the penetration of online services among marketing respondents is lowest (8%). This sharply contrast with figures from the U.S., where marketers represented the third highest usage category, ahead of both librarians and financial analysts.

Table 18

Job Function of Users of Online Information by Economic Sector

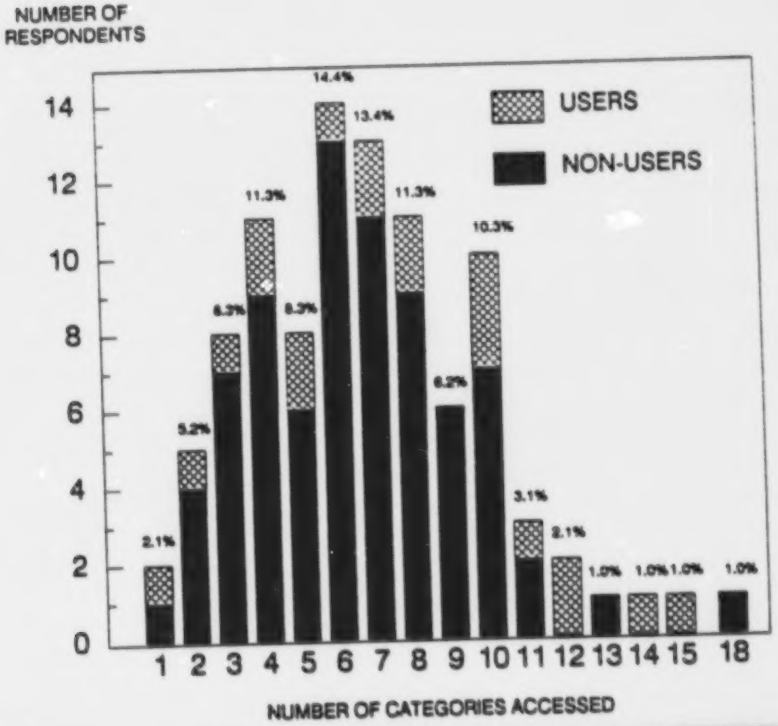
Economic Sector	**No. of Organizations**	**Librarians**		**Marketing**		**Finance**	
		#Resp	**#Users**	**#Resp**	**#Users**	**#Resp**	**#Users**
Agriculture	4	1	0	4	1	4	0
Construction & Building Materials	2	0	0	2	0	2	0
Consumer Electronics	3	1	0	3	0	3	2
Containers & Packaging	2	0	0	2	0	2	0
Credit Card	1	0	0	1	0	1	1
Education/Non Profit	3	2	2	3	0	2	0
Energy	1	1	1	1	0	1	0
Entertainment	2	0	0	2	0	2	0
Health Care	3	2	1	2	0	3	0
Household & Personal Care	3	0	0	3	0	3	0
Industrial Conglomerate	2	1	1	1	0	2	0
Legal & Accounting	3	3	3	3	1	3	0
Lodging & Food Service	4	0	0	4	0	4	1
Publishing/Printing	2	1	0	2	0	2	0
Retailing	2	1	0	2	0	2	0
Telecommunications	1	1	1	1	1	1	0
Transportation (Freight)	4	2	1	4	0	4	3
Total	42	16	10	40	3	41	7
% Users	20%		63%		8%		17%

Usage by Type of Information

Respondents from Phase II mentioned an average of 6.7 information types, very similar to the 6.5 categories mentioned by online users in Phase I. The distribution of respondents by the number of information categories mentioned is shown in Figure 7.

Figure 7

Distribution of Respondents by Number of Categories of Information Accessed



The distribution of mentions is shown in Table 19.

Compared to Phase I users of online information, these respondents showed much greater use of legislation & government information. On the other hand, they were less likely to use scientific, business and consumer credit and patents and trademark information.

Table 19

Information Usage by Category of Information

Information Category	**# of Mentions**	**% of Mentions**	**% of R**	**Avg. Rating**
News	77	12%	79%	3.9
Legislation & Government	71	11%	73%	3.6
Corporate Information	70	11%	72%	3.4
Economic	68	10%	70%	3.5
Product Information	44	7%	45%	3.9
Demographic	43	7%	44%	3.3
Foreign Exchange & Money Markets	40	6%	41%	4.0
Legal	39	6%	40%	4.1
Product Movement	32	5%	33%	3.9
Securities	30	5%	31%	3.6
Business Credit	26	4%	27%	3.3
Vertical Market/Operational	22	3%	23%	3.3
Commodities	19	3%	20%	3.6
Patents & Trademarks	18	3%	19%	4.1
Scientific	18	3%	19%	4.1
Audience Assessment	15	2%	15%	3.7
Consumer Credit	12	2%	12%	3.8
Real Estate	10	2%	10%	3.1
Total	654	100%		3.7
Avg	6.7			

News ranked first in both Phase I and Phase II as the prime type of information used. In fact, news sources were used by 79% of Phase II respondents.

Users of online information contacted during Phase II mentioned an average of 7.7 categories of information (including online and other media), compared to non-users who mentioned an average of 6.5 categories. The average rating in terms of satisfaction with current sources was the same, at 3.7 (on a scale from 1 to 5, with 1 indicating "very dissatisfied" to 5, "very satisfied). These data are shown in Table 20.

Table 20

Information Usage by Category of Information

Category of Information	**Users (N=20)**			**Non-users (N=77)**		
	# of Mentions	**% Total**	**Avg Rating**	**# of Mentions**	**% Total**	**Avg Rating**
Audience Assessment	2	10	2.0	13	17	4.0
Business Credit	8	40	2.0	18	23	3.8
Commodities	7	35	3.4	12	16	3.7
Consumer Credit	1	5	5.0	11	14	3.7
Corporate Information	16	80	3.2	54	70	3.4
Demographic	8	40	3.8	35	45	3.3
Economic	13	65	3.8	55	71	3.5
Foreign Exchange and Money Market	13	65	4.3	27	35	3.9
Legal	8	40	4.1	31	40	4.1
Legislative & Government	14	70	4.0	57	74	3.5
News	18	90	4.1	59	77	3.8
Patents & Trademarks	5	25	3.6	13	17	4.2
Product Information	12	60	3.8	32	42	3.9
Product Movement	7	35	4.0	25	32	3.9
Real Estate	1	5	2.0	9	12	3.2
Scientific	7	35	4.0	11	14	4.1
Securities	10	50	3.8	20	26	3.6
Vertical Market/Operational	4	20	3.5	18	23	3.3
Average	7.7		3.7	6.5		3.7

For both groups of respondents, use of news, corporate, and legislative & government information were mentioned most frequently, with non-users also mentioning the use of economic information. Consumer credit, real estate and audience assessment data were mentioned least frequently among both groups, with commodities, patents & trademark, and scientific information added to this list by non-users.

Major differences did occur in specific categories between those who use and do not use online sources. Business credit, commodities, foreign exchange & money market, scientific and securities information were much more likely to be mentioned by online users compared to non-users. Alternatively, while in relatively low use, consumer credit and real estate information appeared with a higher frequency of mention among non-users.

Satisfaction Levels

Generally, both groups were reasonably satisfied with their current sources of information. Since ratings provided by a small number of users of specific categories of information can significantly skew the data (positively or negatively), it is appropriate to compare ratings provided by 20% or more of respondents in both groups. In these cases, business credit sources were rated significantly higher by non-users, while demographic and legislative & government sources were rated higher by online users.

Frequency of Use

Users of online information services reported more frequent use of their sources of information compared to non-users. Table 21 identifies frequency of use for both groups.

Table 21

Frequency of Use of Information Sources

	Users		Non Users	
	#	%	#	%
At least once a day	17	85%	38	49%
At least once a week	2	10%	25	32%
At least once a month	1	5%	10	13%
Less than once a month	0	0%	4	5%
	20	100%	77	*100%

May not add to 100% due to rounding

Distribution Media

Users of online information reported use of a variety of other electronic media, especially compared to non-users, with more frequent mention of use floppy disk, online broadcast databases, CD-ROM, and audiotex. Non-users did however report greater use of magnetic tape. "Other" categories of information by users included telephone (2), electronic mail, microfiche (2) and telex (1). Non-users, on the other hand, reported receiving information through personal contact via telephone or in person (13). Table 22 identifies use by media for users and non-users.

Table 22

Distribution Media by Type of Respondent

Media	**Users (N=20)**			**Non Users (N=77)**		
	#	**% of R**	**% of Mentions**	**#**	**% of R**	**% of Mentions**
Printer Publications	20	100%	33%	76	99%	65%
Online Interactive Databases	20	100%	33%	0	0%	0%
Magnetic Tape	1	5%	2%	7	9%	6%
CD-ROM	1	5%	2%	0	0%	0%
Floppy Disk	7	35%	12%	17	22%	15%
Online Broadcast Databases	4	20%	7%	2	3%	2%
Audiotex	1	5%	2%	2	3%	2%
Other*	6	30%	10%	13	17%	11%
Total	60		100%	117		100%

* Users: includes telephone, electronic mail, microfiche and telex
Non-users: includes personal contact via telephone or in person

Use of Information by Source

Those who used online services reported a very different distribution of the sources of their information.

Where non-users rely on internal information as their primary source (averaging 48% of information), users tend to rely instead on external information for which a fee is paid as their primary source (Figure 23).

Table 23

Use of Information Through Different Sources

	Users (N=20) Average Distrib of Info	Non-Users (N=77) Average Distrib of Info
Internal	29%	48%
External, Free of Charge	23%	25%
External, with Fees	48%	27%
Total	100%	100%

Canadian vs U.S. sources

Users of online information also appear to be located in organizations whose perspective, by design or default, tends to be more international.

In both cases, Canadian sources are used in the majority of cases. However, users rely on U.S. and international sources to a much greater extent than non-users (Table 24).

Table 24

Canadian vs U.S./International Sources of Information

	Users (N=20) Average Distrib of Info	Non-Users (N=77) Average Distrib of Info
Canadian Sources	58%	74%
U.S./International Sources	42%	26%
Total	100%	100%

Penetration of PCs/ Workstations

One would expect that users of online information would have their own or access to a PC or workstation, and that the majority would use terminals with a modem. This is borne out by the results shown in Table 25.

Table 25

PC/Workstation Access

	Users			**Non-Users**		
	# of R	# of R	% of R	# of R	# of R	% of R
Have PC/Wkstation	18		90%	51		66%
With Modem		15	75%		14	18%
Do Not Have	0		0%	5		6%
Plan to		0	0%		4	5%
Have Access	2		10%	21		27%
Use Frequently		2	10%		2	4%
With Modem		1	5%		1	13%
Totals	20			77		

However, the penetration of PCs/workstations in the group of non-using respondents is also very high (66%), although modems tend to appear much less frequently (18%). In fact, only 6% of respondents did not have their own or access to a PC/workstation (although access might be made infrequently).

Attitudes of Users and Non-Users

Respondents were asked whether they agreed or disagreed with 11 statements related to electronic information services.

Generally, the attitudes of users toward online services are very positive (Table 26). They believe it is relevant to their needs and affordable. The demand for information within their department is perceived as high, especially for competitive information. They often agree however, that both the financial performance of their company and the economy are likely to affect their use of electronic information services.

Table 26

Attitudes of Users and Non-users

	Users (N=20) Agree	Non-users (N=77) Agree	% Difference
a. The cost of electronic information services is affordable.	80%	58%	22%
b. Electronic information services are difficult to use.	10%	6%	4%
c. Suppliers of electronic information services are aggressive marketers.	50%	26%	24%
d. The information available electronically is relevant to my needs.	95%	48%	47%
e. The financial performance of my company affects my likelihood of using electronic information services.	55%	31%	24%
f. The economy affects my likelihood of using electronic information services.	45%	29%	16%
g. I anticipate an increase in my department's expenditures for information in the following year.	50%	47%	3%
h. There is a high awareness within my department of electronic information services.	60%	31%	29%
i. There is a high demand for information within my department.	80%	66%	14%
j. There is a high demand for competitive information within my department.	70%	49%	21%
k. I have heard positive things about electronic information services from other users.	65%	47%	18%
"Don't know" to one or more statements.	20%	34%	-14%

To a lesser extent, non-users also believe that there is a high demand for information within their department and that online services are affordable. Close to half believe that electronic information may be relevant to their needs. However, significantly fewer believe that there is a high awareness within their department of electronic information services.

4.2.3 Use of Statistics Canada Information

The use of Statistic Canada information was widespread. Sixty four percent of respondents, including 86% of librarians, 57% of marketers and 62% of financial analysts reported using Stats Can data.

These respondents reported significantly higher use of both legislative & government and economic information compared to those who did not use Stats Can data (85% vs 45%, and 79% vs 48%, respectively).

They also reported a much higher ratio of external information, especially that for which a fee is charged (averaging 38% vs 21% of information), while those who did not use Stats Can used internal information to a much greater extent (62% vs 35%).

There was virtually no difference in the ratio of Canadian vs U.S./International sources, with both groups reporting just over 70% of sources as Canadian.

While 68% of online users reported using Stats Can, by far the most common delivery medium was printed publications (98%), with only one report of online use. Another two respondents identified that in addition to print, they also used Stats Can data on microfiche.

Sixty five percent of Stats Canada users reported that they obtained the material directly from government sources. Another 12% reported receiving the information from selling agents. In the remaining 23% of cases, the respondent was not sure what original source had been used (17%) or specifically identified that it had come through others in the organization (6%).

4.2.4 The Impact of Centralized vs Decentralized Information Resource Facilities

Distribution of Respondents

Thirty five respondents (36%) identified that their company had a central location where employees search for information (i.e. most typically, centralized library facilities). The remaining 62 respondents (64%) identified that there was no central location within the organization where employees search for information.

However, report of centralized facilities varied within respondents from the same organization. In 11 organizations (26%) one respondent identified the existence of central facilities different from other respondents from the same company.

These 11 organizations are removed from the analysis, leaving a total of 31 organizations, and 67 respondents. Several of the relationships that emerge from comparison (Table 27) are intuitively obvious, such as the fact that those librarians included in the study are more much likely to appear in centralized organizations, and consistent with this, the number of respondents per organization is closer to the targeted number of three. Similarly consistent, users of online services are more likely to appear in organizations with centralized library facilities.

Table 27

Comparison of Respondents Where Library Facilities Are Centralized vs Decentralized

	Centralized			Decentralized		
	#	% of Resp.	% of Mentions	#	% of Resp.	% of Mentions
No. of Respondents	21	100%		46	100%	
No. of Companies	8			23		
Avg. # of Respondents/ Company	2.6			2.0		
No. of Online Users	7	33%		5	11%	
No. of Library Respondents	6	29%		1	2%	
No. of Marketing Respondents	8	38%		22	48%	
No. of Fin. Analyst Respondents	7	33%		23	50%	
Information Category:						
Audience Assessment	2	10%	1%	8	17%	3%
Business Credit	9	43%	6%	11	24%	4%
Commodities	5	24%	3%	8	17%	3%
Consumer Credit	2	10%	1%	8	17%	3%
Corporate Information	16	76%	11%	36	78%	11%
Demographic	9	43%	6%	23	50%	7%
Economic	14	67%	9%	33	72%	11%
Foreign Exchange & Money Markets	8	38%	5%	19	41%	6%
Legal	8	38%	5%	19	41%	6%
Legislation & Government	17	81%	11%	30	65%	10%
News	14	67%	9%	38	83%	12%
Patents & Trademarks	5	24%	3%	7	15%	2%
Product Information	10	48%	7%	21	46%	7%
Product Movement	8	38%	5%	18	39%	6%
Real Estate	2	10%	1%	7	15%	2%
Scientific	5	24%	3%	5	11%	2%
Securities	11	52%	7%	10	22%	3%
Vertical Market/Operational	5	24%	3%	12	26%	4%
Other	1	5%	1%	1	2%	0%
Total Mentions	151	100%		314	100%	
Average Mentions/Respondent	7.2			6.8		

Usage by Type of Information

In addition, the types of information used by respondents in these two groups appears to vary. For example, news is mentioned as a frequent source in both groups, but is mentioned more frequently by those in organizations with decentralized facilities. On the other hand, legislative and government information is the most frequently mentioned type of information by those in centralized organizations.

Although the decentralized group had a larger number of financial analysts included, the centralized group was more likely to mention the use of commodities and securities information.

The average number of information types mentioned by respondents is higher in the centralized group compared to the decentralized group.

Use by Source

Those with centralized information facilities are more accustomed to paying for information that they use. This group reported significantly higher use of external information for which a fee was charged, and less use of both internal information and external information available free of charge.

Table 28

Use of Information Through Different Sources

	Centralized (N=21)	**De-centralized (N=46)**
	Average Distrib of Info	**Average Distrib of Info**
Internal	35%	44%
External, Free of Charge	22%	29%
External, with Fees	43%	27%
Total	100%	100%

Canadian vs U.S. Sources

Use of Canadian vs U.S. sources varied somewhat between the two groups, with those with centralized facilities tending to use more U.S./international sources (Table 29).

Table 29

Canadian vs U.S./International Sources of Information

	Centralized (N=21)	**De-centralized (N=46)**
	Average Distrib of Info	**Average Distrib of Info**
Canadian Sources	68%	74%
U.S./International Sources	32%	26%
Total	100%	100%

Penetration of PCs/ Workstations

A similar proportion of respondents in both groups reported using a PC/workstation (67% vs 70%). Respondents with centralized facilities who did not have a PC/workstation had access to one (33%), while those with decentralized information facilities either had access (24%) or anticipated using a terminal in the future (2 of the 3 remaining respondents).

Previous Experience with Online Services

Approximately one third of respondents in both centralized and decentralized groups (7 and 16 respectively) had experience with online interactive databases. All in the centralized library group continued to be users. However, most respondents in the decentralized group with previous experience no longer used online services (11 or 70%) . The reasons given include: it applied to a previous job (7 or 63%), the information is available in an alternative media (1), it was abused (1) or rarely used (1).

Awareness

Non-users in the decentralized facilities group were far more likely to report that they have considered using online information services compared to non-users with centralized facilities (47% vs 24%) and that they were aware of specific online information alternatives for the information that they use (56% vs 19%).

Respondents in the centralized group tended to be significantly more aware of the following companies and the online information that they provide:

BRS
CAN/OLE
CSG
Infomart
IP Sharp
Mead Data
QL Systems

Users in the decentralized group were more familiar with:

Dialog (although less familiar with the services provided)
Dow Jones
Dun & Bradstreet
FP Online (although less familiar with the services provided)
IST

Both groups appeared equally familiar with Info Globe, with centralized users more frequently reporting familiarity with the services provided.

Respondents in the centralized group reported more frequent use of Statistics Canada data (76% vs 48%), with printed publications by far the most widely used media in both groups.

Attitudes of Those with Centralized vs Decentralized Facilities.

Those with centralized and decentralized facilities generally held very similar attitudes toward the use of electronic information services (Table 30).

Table 30

Attitudes Related to Electronic Information Services

	Central Facilities (N=21) Agree	**Decentralized Facilities (N=46) Agree**	**% Difference**
a. The cost of electronic information services is affordable.	67%	61%	6%
b. Electronic information services are difficult to use.	10%	7%	3%
c. Suppliers of electronic information services are aggressive marketers.	33%	33%	0%
d. The information available electronically is relevant to my needs.	67%	54%	13%
e. The financial performance of my company affects my likelihood of using electronic information services.	14%	30%	-16%
f. The economy affects my likelihood of using electronic information services.	10%	33%	-23%
g. I anticipate an increase in my department's expenditures for information in the following year.	48%	50%	-2%
h. There is a high awareness within my department of electronic information services.	38%	26%	12%
i. There is a high demand for information within my department.	67%	70%	-3%
j. There is a high demand for competitive information within my department.	48%	59%	-11%
k. I have heard positive things about electronic information services from other users.	57%	37%	20%
"Don't know" to one or more statements	19%	35%	-16%

Those in organizations with centralized facilities more often tended to see electronic information services as relevant to their needs, and they believe that there was a high awareness within their department of electronic information services. Word of mouth about electronic information services also appears to be high, with more than half of respondents saying that they had heard positive things from other users. As important, they typically did not believe that either the financial performance of their company nor the economy would affect use.

4.2.5 Attitudes of Non-Users Toward Electronic Information Services

More than experience or awareness, *attitudes* toward information usage and electronic information services were critical in differentiating non-user groups.

Of the 11 attitude measures taken, the most significant factors are:

1. The perceived demand for information within the organization.
2. The expectation that budget for information will increase in the following year.
3. The perception of affordability of electronic information.
4. The perceived relevance of electronic information.

Least critical were:

1. Perception of ease of use.
2. Word of mouth.
3. The expectation that financial performance affects likelihood of use.
4. The perceived marketing efforts of vendors.

In this section, the four critical factors are considered.

The Perceived Demand for Information within the Organization

Of the 77 non-users, 51 (66%) agreed that there was a high demand for information within their department. This percentage was consistent across all three job categories.

The perception of demand for information was very consistent on a organization by organization basis.

> In 24 of the 42 organizations (57%), all respondents within the same organizations agreed that the demand for information in their department was high.

> In another 9 companies (21%), all respondents consistently did not agree with the statement.

> Only in 9 companies (21%) did individuals with various job functions perceived the demand for information within their respective departments differently.

In fact, the perception of demand for information appears to be as much related to the specific organization as the economic sector to which it belongs.

Those reporting a high demand for information did, as expected, report the use of a wider range of information types (6.9 categories compared to 5.7). As well, the level of previous experience with online services was higher, reported by 31% of respondents in the "high demand" group, compared to 12% in the other group.

The attitudes of those who agreed with the statement that "There is high demand for information within my department" also held significantly different opinions on the following, compared to their counterparts (Table 31):

> They also believe that there is a high demand for competitive information.

> They believe that the expenditures for information will increase in the following year.

> They believe that electronic information is relevant to their needs.

> They believe that the cost of electronic information services is affordable.

Table 31

Perceived High Demand for Information (Agree to Statement I)

	Agree (N=51)	**Do Not Agree (N=26)**	**% Difference**
a. The cost of electronic information services is affordable.	75%	27%	48%
b. Electronic information services are difficult to use.	6%	8%	-2%
c. Suppliers of electronic information services are aggressive marketers.	31%	15%	16%
d. The information available electronically is relevant to my needs.	65%	15%	50%
e. The financial performance of my company affects my likelihood of using electronic information services.	37%	19%	18%
f. The economy affects my likelihood of using electronic information services.	39%	8%	31%
g. I anticipate an increase in my department's expenditures for information in the following year.	65%	12%	53%
h. There is a high awareness within my department of electronic information services.	37%	19%	18%
i. There is a high demand for information within my department.	100%	0%	100%
j. There is a high demand for competitive information within my department.	69%	12%	57%
k. I have heard positive things about electronic information services from other users.	55%	31%	24%
"Don't know" to one or more statements	39%	23%	16%

These results indicate that it is the organization, rather than the sector or individual department that is information intensive. Given an anticipated increase in expenditures for information in these organizations, as well as the perception that electronic information is affordable, these organizations appear to place a premium on the value of information compared to their counterparts.

Increased Expenditures for Information

Thirty six non-users anticipated an increase in their department's expenditures for information in the following year. While marketers and financial analysts are equally represented in both groups, librarians agreed with the statement less frequently.

Like the perception of demand for information, the belief that expenditures for information would increase was consistent on an organization by organization basis, although somewhat less so:

> In 16 organizations (38%), all respondents within the same organization believe expenditures would increase.

> In another 16 organizations, all respondents did not agree that expenditures would increase.

> In the remaining 10 organizations (24%), expectations differed.

The suggestion that the organization, rather than the economic sector, was critical in determining attitudes toward information is reinforced in this analysis, where all respondents from companies in only four sectors consistently agreed with the statement. In the remaining sectors, responses varied by organization.

Respondents that anticipated an increase in expenditure for information use more different categories of information (7.2 vs 5.9) and also used them more frequently (56% used their sources daily compared to 44%).

Those that anticipated an increase in expenditures also tended to use Canadian sources somewhat less (70% vs 78% of sources), although both groups rely most heavily on Canadian sources.

Almost 40% of those that anticipated an increase had previous experience using online services (compared to 12%), and 69% (vs. 32%) have considered using online services.

The major difference between those that agreed with that statement and those that did not are on the following (Table 32):

> There is a high demand for information within their department.

> They believe that the cost of electronic information services is affordable.

> They believe that electronic information is relevant to their needs.

> They also believe that there is a high demand for competitive information.

Table 32

Expectation that Expenditures for Information will Increase (Agree to Statement G)

	Agree (N=36)	Do Not Agree (N=41)	% Difference
a. The cost of electronic information services is affordable.	81%	39%	42%
b. Electronic information services are difficult to use.	11%	20%	-9%
c. Suppliers of electronic information services are aggressive marketers.	42%	12%	30%
d. The information available electronically is relevant to my needs.	69%	29%	40%
e. The financial performance of my company affects my likelihood of using electronic information services.	44%	20%	24%
f. The economy affects my likelihood of using electronic information services.	44%	15%	29%
g. I anticipate an increase in my department's expenditures for information in the following year.	100%	0%	100%
h. There is a high awareness within my department of electronic information services.	44%	20%	24%
i. There is a high demand for information within my department.	92%	44%	48%
j. There is a high demand for competitive information within my department.	69%	32%	37%
k. I have heard positive things about electronic information services from other users.	61%	34%	27%
"Don't know" to one or more statements	28%	39%	-11%

At this point then, no additional factors related to attitudes are introduced, although the differences or priorities between groups has changed.

Affordability of Electronic Information Services

Almost 60% of non-users agreed with the statement that "The cost of electronic services is affordable". Marketers, more than financial analysts or librarians, tended to agree with the statement (65% vs 53% vs 50%, respectively).

Attitudes toward the cost of electronic information are not necessarily held widely within an organization:

> In the same number of companies/organizations where all respondents believed electronic information to be affordable (43%), respondents within the same company held differing opinions.

> In only a small number of companies (14%) did all respondents from the same organization believe that the cost of electronic information is not affordable.

Those who believed that the cost of electronic information is affordable typically used more categories of information (6.9 vs 5.9) and accessed them more frequently (53% vs 44% used sources at least once a day). They also tended to rely on external information -- both available free and for which a fee was charged -- more often than those who did not agree that electronic information was affordable (64% vs 55%).

Interestingly, those who did *not* agree that costs were affordable were more likely to have their own PCs/workstation (78% vs 58%), although the penetration of modems was slightly lower (16% vs 20%).

Major differences between those who agreed or did not agree that online services are affordable occurred in the following statements (Table 33):

> There is a high demand for information within the department.

> An increase in expenditures for information is anticipated.

> Electronic information is relevant to their needs.

> They have heard positive things from other users about electronic information services.

> There is a high level of awareness of electronic information services within the department.

In addition to a high demand for information and the expectation of increased departmental expenditures for information, word of mouth and (consistently) awareness within the department are additional variables appearing to influence the attitudes of non-users.

These latter would seem to be the variables that influence personal, rather than corporate, attitudes toward use of online services.

Table 33

Affordability of Electronic Information Services (Agree to Statement A)

	Agree (N=45)	Do Not Agree (N=32)	% Difference
a. The cost of electronic information services is affordable.	100%	0%	100%
b. Electronic information services are difficult to use.	7%	6%	1%
c. Suppliers of electronic information services are aggressive marketers.	36%	13%	23%
d. The information available electronically is relevant to my needs.	64%	25%	39%
e. The financial performance of my company affects my likelihood of using electronic information services.	38%	22%	16%
f. The economy affects my likelihood of using electronic information services.	38%	16%	22%
g. I anticipate an increase in my department's expenditures for information in the following year.	64%	22%	42%
h. There is a high awareness within my department of electronic information services.	47%	9%	38%
i. There is a high demand for information within my department.	84%	41%	43%
j. There is a high demand for competitive information within my department.	60%	34%	26%
k. I have heard positive things about electronic information services from other users.	62%	25%	37%
"Don't know" to one or more statements	27%	44%	-17%

Perceived Relevance of Electronic Information

The perceived relevance of electronic information is the fourth critical variable differentiating groups of non-users.

Thirty seven non-users (48%) agreed that information available electronically is relevant to their needs. Librarians and marketers agreed with this statement slightly more frequently than financial analysts (50%, 51% and 44%, respectively).

Respondents from the same organization did not necessariy hold similar views:

> In 40% of cases, all respondents within the same organization agreed to this statement.

> In another 40%, respondents within the same organization held different views.

> Only in 19% of organizations did all respondents believe that electronic information was not relevant.

Those holding the view that electronic information was relevant access only slightly more categories of information (6.8 vs 6.2), although they tend to access them more frequently (54% vs 45% use their sources daily).

They tend use internal sources less in the total mix of information (40% vs 56%), and instead rely on external sources, both free and especially paid, more often.

The attitudes of those who agreed that information available electronically was relevant to their needs, versus those who did not agree, varied significantly on the following (Table 34):

> There is a high demand for information within the department.

> The expectation that expenditures for information will increase.

> The cost is considered affordable.

> Awareness within the department is high.

> They have heard positive things about electronic information services from other users.

Table 34

Relevance of Electronic Information (Agree to Statement D)

	Agree (N=37)	Do Not Agree (N=40)	% Difference
a. The cost of electronic information services is affordable.	78%	40%	38%
b. Electronic information services are difficult to use.	8%	5%	3%
c. Suppliers of electronic information services are aggressive marketers.	38%	15%	23%
d. The information available electronically is relevant to my needs.	100%	0%	100%
e. The financial performance of my company affects my likelihood of using electronic information services.	35%	28%	7%
f. The economy affects my likelihood of using electronic information services.	38%	20%	18%
g. I anticipate an increase in my department's expenditures for information in the following year.	68%	28%	40%
h. There is a high awareness within my department of electronic information services.	51%	13%	38%
i. There is a high demand for information within my department.	89%	45%	44%
j. There is a high demand for competitive information within my department.	62%	38%	24%
k. I have heard positive things about electronic information services from other users.	62%	33%	29%
"Don't know" to one or more statements	24%	43%	-19%

Prime Target Market

Since attitudes toward electronic information appear to substantially differentiate groups of non-users, it is appropriate to isolate those respondents in the highest potential use category, i.e. those that agreed with all critical statements:

> high demand for information;

> expectation of increased expenditures for information;

> perceiving costs as affordable;

> perceiving online services to be relevant to their needs.

A total of 18 non-users (23%) met all these criteria.

Of the eighteen, 12 or 67% were marketers, 4 (22%) were financial analysts, and two (11%) were librarians.

With two exceptions, one in the consumer electronic sector and one in the legal & accounting sector, each respondent represented a unique organization (Table 35).

This target group reported that they accessed sources more frequently (67% vs 49% accessed at least once a day), and tended to use electronic media such as floppy disk and mag tape more frequently.

However, they did not did not appear to access a significantly larger number of categories of information (6.9 vs 6.5), and average ratings for sources were very similar (3.6 vs 3.7).

Table 35

Prime Targets for Electronic Information Use

Economic Sector	**No. of Orgs.**	**No. of Resp.**
Agriculture	1	1
Consumer Electronics	1	2
Containers & Packaging	1	1
Credit Card	1	1
Education/Non Profit	2	2
Energy	1	1
Entertainment	1	1
Health Care	1	1
Household & Personal Care	2	2
Legal & Accounting	1	2
Lodging & Food	1	1
Retail	1	1
Transportation (Freight)	2	2
Total	16	18

When all attitudes of this group are compared to other non-users, major differences appear in the level of agreement with virtually every statement. However, the attitude of these prime targets is very similar to users (Table 36).

These criteria therefore seem critical in predicting the propensity to use online services.

Table 36

Attitudes of Prime Targets vs Users and Other Non-Users

	Prime Targets (N=18)	Users (N=20)	Other Non-Users (N=59)	Prime vs Users	Prime vs Non-Users
	Agree	Agree	Agree	% Diff	% Diff
a. The cost of electronic information services is affordable.	100% *	80%	46%	20%	54%
b. Electronic information services are difficult to use. difficult to use.	11%	10%	5%	1%	6%
c. Suppliers of electronic information services are aggressive marketers.	56%	50%	17%	6%	39%
d. The information available electronically is relevant to my needs.	100% *	95%	32%	5%	68%
e. The financial performance of my company affects my likelihood of using electronic information services.	50%	55%	25%	-5%	25%
f. The economy affects my likelihood of using electronic information services.	61%	45%	19%	16%	42%
g. I anticipate an increase in my department's expenditures for information in the following year.	100% *	50%	31%	50%	69%
h. There is a high awareness within my department of electronic information services.	56%	60%	24%	-4%	32%
i. There is a high demand for information within my department.	100% *	80%	56%	20%	44%
j. There is a high demand for competitive information within my department.	67%	70%	44%	-3%	23%
k. I have heard positive things about electronic information services from other users.	61%	65%	42%	-4%	19%
"Don't know" to one or more statements.	11%	20%	41%	-9%	-30%

* = Selection Criterion

Section 5:
Comments of Respondents

5. COMMENTS OF RESPONDENTS

While structured questionnaires were used to obtain top-line market information, respondents in Phase I and II were invited to comment on specific issues as well as add their own opinions and concerns.

In this section of the report, a summary of these individual comments is presented.

There has been no attempt by IDC to edit out statements that are obviously "invalid". Rather these remarks are included with others to reflect what market participants *believe* to be true, regardless of the accuracy of these perceptions.

However, IDC has edited comments that reflect similar points of view.

5.1 Comments of Phase I Users

Canadian Versus U.S. Data

In general, users are hoping that more Canadian databases will become available.

Users feel that some information categories such as corporate and product information are lacking Canadian content. Other categories, such as scientific and some types of economic information, have an increasingly global focus and users will seek more international content in these areas.

The actual location of the database did not appear particularly important to users. International databases containing Canadian content are seen as a viable alternative to Canadian-based services. Users appear sensitive to difference in quality and coverage and there is some *perception* that international databases are improving at a faster rate than their Canadian counterparts.

Notably, news is one information category in which users perceive Canadian content has increased dramatically.

Cost

As noted in Section 3, online information is seen by most users as somewhat overpriced and there is some perception that the costs may be affecting demand.

In some cases, use of these online services was considered only when more conventional research methods are exhausted or are otherwise impractical. In addition, media that are less expensive or less usage sensitive (i.e. hardcopy or diskette) may be considered as a viable alternative.

Statistics Canada's service in particular was singled out by one user as essential, but expensive.

While these comments would suggest that convenience of access to current information is still not a decision criterion in many cases, other users perceive online information to be the most cost-effective means of obtaining the information they require. Many users stated that if the coverage and quality are good, price is not a factor.

However, lowering the price of online services is unlikely to stimulate use. A heavy securities user stated that the service his organization uses recently reduced usage charges by 40%. The provider did this by reducing a substantial subscription fee, changing dial-up, loading and updating procedures, and updating equipment. *The user did not redirect his savings into increased use of that or any other electronic services.* Instead, he upgraded the company's microcomputer hardware.

Pricing Structure

Pricing structure was mentioned frequently as an issue, although comments indicated varying pricing needs.

Some users like pricing structures that allow them to predict their online information costs upfront. This is particularly true of libraries and educational institutions with fixed information retrieval budgets. Other users prefer a "pay-as-you-go" plan, especially with no upfront subscription or set monthly fees.

Users also identified a concern about the relationship between command structures and pricing structures. They were often unable to predict the effect of command structure changes on their costs.

Service Changes

In general, recent service changes have been well received by users and there is a perception that services are becoming more user-friendly. Those enhancements frequently mentioned in a positive light were;

> Simplified search commands, including the introduction of default commands;

> Menu enhancements, including the introduction of optional menus;

> Linking of databases;

> Cross-searching of databases;

> Additional databases.

Two users suggested that menu-driven search structures should be offered on an optional basis, since requirements to manipulate the data as well as proficiency can vary among users.

CAN/OLE was cited as one service that needs to improve ease of use.

Key Factors Influencing Expenditure

Users named the following key factors which influence their expenditures for online information:

> Cost;

> Research and development budgets within the organization;

> Economic conditions;

- Awareness of services available;
- Ease and speed of access;
- Scope and coverage of the databases;
- Demand for information within the organization, including awareness of the need for competitive information;
- Recognition and acceptance of the benefits of electronic services by end-users of the information and senior management.

The expectation that information is available free of charge was also cited as a factor inhibiting expenditure. For example, one heavy user of scientific information identified the need to educate management concerning the benefits of online information (i.e. accuracy and currency). However, he perceived management's expectations of obtaining information free of charge as a barrier to increased online use.

Key Market Areas

Users cited the following as key market areas for providers over the next 5 years;

- Additional Canadian databases, specifically audience assessment, demographic, corporate, economic forecasts, legislative and government, news, patents, product information, securities and vertical market/operational.
- Standardized search strategies and command languages;
- Increased ease of use;

> Increased level of customer service;

> Increase of textual and numeric versus bibliographic material.

5.2 Comments of Phase II Users

Since the majority of Phase II respondents were not users of online information services, their comments were related to use of information, and electronic information, in the next two to five years.

Greater Sophistication in the Use of Information

Many respondents expected that automation would change the way in which they access, use and produce information.

While one individual mentioned an increased penetration of hardware and software within his organization over the next few years, most identified more generally an increasing need for sophistication and efficiency in management of information. Even those whose sources were primarily internal expected their use of electronic versus paper-based information to increase.

Specific factors that were mentioned as influencing this trend toward more sophistication included free trade, world trade, and the need to keep up with changes in industry-specific technology.

Growth in End-User Computing

In keeping with the concept of greater sophistication in the use of information, penetrations of PCs and workstations is expected to increase dramatically. Only a few of those who currently do not have a PC expect that this situation will continue.

Scope of Information

By a 3:1 ratio, information users would prefer more specialized, targeted information than a broader range of information.

Those who would prefer a broader range of information are often information specialists who conduct searches for end-users with varying, "ever changing" needs. In these cases, locating additional sources that can meet specialized needs is appropriate.

However, for the average end-user of the information, easier access and more centralized sources are optimal. One user noted that he expects to be using services "where I can target information and manipulate the data myself, rather than purchasing a large printed publication that is 90% irrelevant". Indeed, some respondents reacted very negatively to the alternative of a broader range of services.

The types of information that are considered ideal may have only limited appeal, and in terms of electronic information, may grow from vertical market/operational applications. This includes one suggestion of industry specific pricing and manufacturing schedules.

Future Use of Online Information

When asked, the majority of respondents expected to begin to use or increase usage of online information services in the next five years.

The reasons for this expectation varied. Current non-users were apt to suggest that online services will grow in coverage, and become more readily available, easier to retrieve, and more affordable. One individual noted that his colleagues believed current services "are in their infancy" and as this changes, the likelihood of use will increase.

A number of librarians mentioned that use of online services will increase at the end-user level. However, several end-users identified that although use of online services will increase, they will continue to use intermediaries to do the searching.

Other Distribution Media

CD ROM was mentioned by three respondents as a possible delivery media in future. Increased use of microfiche was also noted.

The Reason that Online Services Are No Longer Used

A number of respondents had reported that they or their organization had at one time used online services.

Typically, individuals had gained the experience on previous jobs, or working on specific projects in the past (including training courses). In these cases, respondents felt that the specific database was not applicable to their current position, although they held generally positive attitudes toward online information services.

However, several individuals reported that the decision not to use online services was made at a corporate level. Respondents attributed it to the fact that the services were too costly, too costly in relation to benefits, or that the speed of delivery was not necessary and, in addition, the online services had been abused.

Appendix A:
Phase I Questionnaire

USER DISCUSSION OUTLINE

CORPORATE INFORMATION

1. Where is the company/organization head office?

____

____

(The following questions relate to the company's/organization's activity in Canada.)

2. How would you describe your company's/organization's major activity?
(What is the company's/organization's major area of business?)

____

____

3. What industry/industries is your company/organization in? Approximately what percentage of your revenues come from each?

1 Advertising Agencies and Market Research ________
2 Aerospace/Aviation ________
3 Agriculture ________
4 Automotive ________
5 Banks & Trust Companies ________
6 Chemicals & Drugs ________
7 Construction & Building Materials ________
8 Consumer Electronics/Appliances ________
9 Containers & Packaging ________
10 Education & Non-Profit ________
11 Energy/Fuel ________
12 Entertainment ________
13 Food & Beverages ________
14 Government (SPECIFY) ____________________ ________
15 Health Care ________
16 Household & Personal Care Products ________
17 Industrial Conglomerates ________
18 Insurance ________
19 Investment Banking/Management/Brokerage ________
20 Legal & Accounting Services ________
21 Lodging & Food Service ________
22 Mail Order/Direct Mail ________
23 Metals & Metalworking & Machinery ________
24 Office Equipment & Computers ________
25 Paper & Forest Products ________
26 Publishing/Printing ________
27 Retailing ________
28 Telecommunications ________

29 Transportation (Passenger) (SPECIFY) ____________________ ________

30 Transportation (Freight) (SPECIFY) ____________________ ________

31 Other (SPECIFY) ____________________ ________

INFORMATION TYPE

4. What are the categories of electronic information purchased by your company/organization? Approximately what percentage of your total electronic information expenditure is currently accounted for by each information type? What percentage is expected in 1991?

		1987	1991
1	Audience Assessment	________	________
2	Business Credit	________	________
3	Commodities	________	________
4	Consumer Credit	________	________
5	Corporate Information	________	________
6	Demographic	________	________
7	Economic	________	________
8	Foreign Exchange & Money Market	________	________
9	Legal	________	________
10	Legislation & Gov't.	________	________
11	News	________	________
12	Patents & Trademarks	________	________
13	Product Information	________	________
14	Product Movement	________	________
15	Real Estate	________	________
16	Scientific	________	________
17	Securities	________	________
18	Vertical Market/Operational	________	________
19	Other (SPECIFY) ____________	________	________

5. Which information categories do you anticipate adding to your purchasing over the next five years?

DON'T KNOW ☐
NO RESPONSE ☐

ADD: ____________________

ADD: ____________________

ADD: ____________________

ADD: ______________________________

ADD: ______________________________

6. Does your company/organization produce any databases which are serviced or distributed by other companies?

YES	☐
NO	☐

If YES, please specify --->

DATABASE: ______________________________

DATABASE: ______________________________

EXPENDITURES & SUBSCRIBERSHIP

7. Does your company/organization presently contract with any commercial suppliers of electronic information databases?

YES	☐
NO	☐
DON'T KNOW	☐

8. Which electronic information services are being purchased and used by your company?

Service	Database(s)
____________________	____________________________
____________________	____________________________
____________________	____________________________
____________________	____________________________

9. How often have you accessed online electronic information databases so far in 1987?

a. Daily	☐
b. Almost Daily	☐
c. Two or three times per WEEK	☐
d. Two to three times per MONTH	☐
e. Other (please specify) ________________	

10. What percentage of your log on time is spent accessing

Canadian databases _____ %

American and International databases _____ %

11. How do you see this ratio changing over the next five years?

____

____

12. What is your average monthly bill for electronic information services? What % change do you anticipate over the next five years?

DON'T KNOW ☐
NO RESPONSE ☐

Average Monthly Bill

1987 $ __________

1991 $ __________

13. What was your approximate annual expenditure for electronic information?

In 1986 $ __________

In 1987 $ __________

14. What percentage of that amount is currently used to purchase

Canadian databases _____ %

American and International databases _____ %

15. How do you see this ratio changing over the next five years?

____

16. At what rate do you expect your company's/organization's annual expenditure on electronic information to grow over the next five years? What dollar figure would that correspond to?

DON'T KNOW ☐
NO RESPONSE ☐

_____ %

$ __________

DISTRIBUTION MEDIA

17. What do you estimate to be your relative percentage expenditures among the distribution media of electronic information your company purchases?

a. Online Database, Interactive _____ %
b. Online Database, Broadcast _____ %
c. Interactive Voice, Audiotex _____ %
d. CD-ROM _____ %
e. Magnetic Tape _____ %
f. Floppy Disc _____ %
g. Other (PLEASE SPECIFY)
_________________________ _____ %

18. Do you buy paper or micro-fiche based publications which include the same information which is accessible on-line?

YES ☐
NO ☐
DON'T KNOW ☐

19. What is the ratio of your expenditure on such publications to your expenditure on electronic distribution of the same information?

DON'T KNOW ☐
NO RESPONSE ☐

Information Type	Print Ratio	Electronic Ratio
__________________	_____ %	_____ %
__________________	_____ %	_____ %
__________________	_____ %	_____ %
__________________	_____ %	_____ %

20. For the entire company/organization, what is the ratio of total print publication expenditure to total electronic information expenditure?

DON'T KNOW ☐
NO RESPONSE ☐

Print Ratio	Electronic Ratio
_____ %	_____ %

USER SATISFACTION

I would like to focus now on **online** information.

21. How satisfied are you with the **online** information which you currently use?
(Please rate your satisfaction level with each information type named in question 4 as 'Very Satisfied', 'Somewhat Satisfied', 'Somewhat Dissatisfied' or 'Dissatisfied'.)

Information Type	VS	SS	SD	D
	☐	☐	☐	☐
	☐	☐	☐	☐
	☐	☐	☐	☐
	☐	☐	☐	☐
	☐	☐	☐	☐

For those Information Types with which the respondent is either **Somewhat Dissatisfied or Dissatisfied**, probe for: reasons for dissatisfaction, has the respondent considered changing suppliers (why or why not), etc.

TRENDS AND ATTITUDES

22. In your opinion, are the prices for **online** information services:

Very affordable ☐
Affordable ☐
Somewhat overpriced ☐
Prohibitively costly ☐
Don't know/no opinion ☐

23. What key market factors have the greatest influence (positive or negative) over the growth of your company's/organization's electronic information expenditure?

DON'T KNOW ☐
NO RESPONSE ☐

24. In your opinion, on what key areas in your market over the next five years should information providers focus for new database development?

DON'T KNOW ☐
NO RESPONSE ☐

25. What design changes have been introduced to the service(s) you are using in the past year? How do you feel about them?

JOB FUNCTION

26. What are the typical job functions held by those individuals in your company who use electronic information service(s)? What is the estimated percentage of usage among the various job functions? And in 1991?

		1987	1991
1	Accountants		
2	Commodity Brokers		
3	Consumers		
4	Corporate Financial Officers		
5	Credit Managers		
6	Economists		
7	Engineers		
8	Farmers & Agribusiness exec's		
9	Financial Analysts		
10	General Management		
11	Health Practitioners		
12	Lawyers/Senior/Partners		
13	Lawyers/Associates		
14	Librarians/Info Specialists		
15	Loan Officers		
16	Lobbyists		
17	Marketers		
18	Media Buyers/Planners		
19	Money & Fund/Trust Managers (BUY & SELL SIDE)		
20	Operations Executives		
21	Planners		
22	Politicos		
23	Product Developers		
24	Public Affairs/PR Professionals		
25	Purchasing Agents		
26	Real Estate Agents		
27	Real Estate Developers		
28	Reporters/Editors		
29	Retail Brokers		
30	Retail Managers		
31	Scientists & Researchers		
32	Site Location Planners		
33	Traders		
34	Other (SPECIFY)		

27. Which additional job functions within your company do you anticipate will be using electronic information services over the next five years?

DON'T KNOW ☐
NO RESPONSE ☐

ADD: ______________________________

ADD: ______________________________

ADD: ______________________________

28. Does your firm purchase applications software from an electronic information service as a value-added option?

YES ☐
NO ☐
DON'T KNOW ☐
NO RESPONSE ☐

If YES --->

... for what application? What is its price?

Application	Price
______________________	$______
______________________	$______
______________________	$______

THANK FOR YOUR TIME

Appendix B:
Phase II Questionnaire

ELECTRONIC INFORMATION QUESTIONNAIRE

1a. I'm going to read a list of information categories. Please tell me if you personally use that type of information and how satisfied you are with your source.

When respondent indicates use of a category, say:
"Let's use a scale of 1-5, with 1 indicating that you are very dissatisfied and 5 indicating that you are very satisfied."

		VD				VS
Audience Assessment	___	1	2	3	4	5
Business Credit	___	1	2	3	4	5
Commodities	___	1	2	3	4	5
Consumer Credit	___	1	2	3	4	5
Corporate Information	___	1	2	3	4	5
Demographic	___	1	2	3	4	5
Economic	___	1	2	3	4	5
Foreign Exchange & Money Market	___	1	2	3	4	5
Legal	___	1	2	3	4	5
Legislation & Govt	___	1	2	3	4	5
News	___	1	2	3	4	5
Patents & Trademarks	___	1	2	3	4	5
Product Information	___	1	2	3	4	5
Product Movement	___	1	2	3	4	5
Real Estate	___	1	2	3	4	5
Scientific	___	1	2	3	4	5
Securities	___	1	2	3	4	5
Vertical Market/Operational	___	1	2	3	4	5
Other (SPECIFY)	___	1	2.	3	4	5

____

1b. How often do you use these information sources?

At least once a day ___
At least once a week ___
At least once once a month ___
Less than once a month ___

1c. In what format do you (personally) receive the information?

Ask as open-ended question -- prompt with list as necessary.

Printed publications _____
Online interactive databases _____
Magnetic tape _____
CD-ROM _____
Floppy disk _____
Online Broadcast databases _____
Audiotex _____

2a. Does your company have one central location where employees search for information?

Yes [ ]
No [ ]

2b. If you need information, does a librarian actually do the search or do you typically do your own searches?

Librarian _____

Respondent _____

Both _____

2c. We'd like you to break down the information that you use into 3 categories:

- that which is produced internally,
- that which is produced externally and is available free of charge (for example, product brochures from other companies or competitors)
- and, that which is produced externally and must be purchased (such as journal subscriptions or research reports)

Can you tell me what proportion of your information is:

Produced internally? ____%

Produced externally and available free of charge? ____%

Produced externally and available for a fee? ____%

2d. What proportion of your information is from Canadian sources vs. U.S. and international sources?

Canadian ___%

U.S./Int'l ___%

3a. Do you use a PC or workstation, or have access to one?

Yes _____ ---> Does your PC or workstation have a modem?

Yes [ ]
No [ ]

No _____ ---> Do you anticipate using a PC or workstation in the future?

Yes [ ]
No [ ]

Access ___---> 1) How often do you use the PC or workstation?

Frequently [ ]
Not Frequently [ ]

2) Does your PC or workstation have a modem?

Yes [ ]
No [ ]

3b. As part of this study, we're looking at databases delivered electronically. Typically, this information is sold by private companies or government agencies and is accessed via a PC/workstation and a modem.

Have you had any previous experience with information delivered this way?

Yes _____ ---> Continue with question 3c.

No _____ ---> Go to question 4.

If the respondent has previous experience:

3c. What services have you used?

If applicable, prompt for reasons they are no longer using electronic information such as cost, difficulty of use, lack of support, not relevant to their needs.

IF THE RESPONDENT IS CURRENTLY A USER OF ONLINE SERVICES, GO TO QUESTION #6.

4. Have you ever considered using electronic information services in your present position?

Yes [ ]
No [ ]

5. Have you heard of specific electronic information alternatives for the kind of information that you use?

Yes [ ]
No [ ]
Don't Know _____

CONTINUE WITH QUESTION 6 ON PAGE 5.

6. I'm going to read a list of electronic information suppliers and I'd like you to tell me if:

a) You have heard of the company;

b) You are familiar with the electronic services they provide.

	(A)			(B)		
BRS	Y	N	DK	Y	N	DK
CAN/OLE	Y	N	DK	Y	N	DK
CSG	Y	N	DK	Y	N	DK
Dialog	Y	N	DK	Y	N	DK
Dow Jones	Y	N	DK	Y	N	DK
Dun & Bradstreet	Y	N	DK	Y	N	DK
FP Online	Y	N	DK	Y	N	DK
Info Globe	Y	N	DK	Y	N	DK
Infomart	Y	N	DK	Y	N	DK
IP Sharp	Y	N	DK	Y	N	DK
IST	Y	N	DK	Y	N	DK
Mead Data	Y	N	DK	Y	N	DK
PONY	Y	N	DK	Y	N	DK
QL Systems	Y	N	DK	Y	N	DK

7. Are you using Statistics Canada information?

Yes _____ No _____

In what format?

Printed Publication _____
On-line _____
Other (Please specify) _____

And from what vendor? _______________

If the respondent is unaware of any electronic information suppliers go to question 9. (Page 7)

8. I'm going to read you a list of statements about electronic information services. Please indicate whether you agree or disagree with the statement.

   a. The cost of electronic information services is affordable.

   b. Electronic information services are difficult to use.

   c. Suppliers of electronic services are aggressive marketers.

   d. The information available electronically is relevant to my needs.

   e. The financial performance of my company affects my likelihood of using electronic information services.

   f. The economy affects my likelihood of using electronic information services.

   g. I anticipate an increase in my department's expenditures for information in the following year.

   h. There is a high awareness within my department of electronic information services.

   i. There is a high demand for information within my department.

   j. There is a high demand for competitive information within my department.

   k. I have heard positive things about electronic information services from other users.

9. Our last question is about your future use of information.

How do you see your use of information changing within the next two to five years?

Prompt:
Will you be using a PC or workstation within 2 to 5 years? (If the respondent does not have one now)

Do you think you will be using on-line services in the future?

Will you be using a broader range of sources or more targeted information?

Verify:

Title

Main responsibilities

Department

Thank you.

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THE ELECTRONIC INFORMATION INDUSTRY IN CANADA

DATE
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NOM DE L'EMPRUNTEUR

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Volume

2

The Electronic Information Industry in Canada

Volume II: Analysis of Markets by Information Category

Prepared for:

Government of Canada
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Section 6:

Analysis of Markets by Information Category

6. ANALYSIS OF MARKETS BY INFORMATION CATEGORY

This section provides an overview of the electronic information marketplace by category of information.

For each category, a brief overview of the U.S. market is provided (based on the LINK Resources report) including key trends affecting the North American market. This is followed by an overview of the results of this study and a description of those using the category of information, both in electronic and other distribution media.

6.1 Definitions & Description of Layout

The Description of Respondents

The description of respondents compares Phase I users (n = 57) and Phase II non-users (n = 77).

> Phase I respondents access all categories of information (including "Other Categories of Information") online.

> Phase II respondents receive all categories of information via other distribution media (typically print).

Phase II users of online information (n = 20) are excluded, since those categories which they accessed online versus via other distribution media were not identified.

No. of Respondents (# of R) identifies the number of Phase I users and Phase II non-users in each group. This is presented as a percent of total Phase I users/ Phase II non-users (% of cell).
Job Category divides Phase II respondents in the group by job category, and identifies each as a percent of all Phase II non-users in the same job category (% of cell). As noted, Phase I respondents were all librarians or information resources managers.

Economic Sector divides the number of respondents in each group by economic sector, and shows this as a percentage of Phase I users/ Phase II non-users within the same sector.

Since Phase II focussed primarily on "low use" sectors, those sectors from Phase I that were not surveyed in Phase II are identified with an asterisk.

Average Rating includes the average satisfaction rating for Phase II non-users in the group. The rating was based on a scale of 1 to 5, with a "1" indicating very dissatisfied and a "5" indicating very satisfied. (For comparison, the average rating across all categories of information was 3.7.)

Other Categories of Information identifies those additional categories mentioned by 50% or more of respondents in each group.

Key Vendors To This Group identifies those vendors mentioned by 25% of Phase I users in the group. These are presented in alphabetical order.

Awareness of Key Vendors identifies those vendors whose electronic information services (as opposed to corporate identity) were familiar to 25% of Phase II non-users in the group. Respondents were originally asked to respond to a list of 14 vendors, including one fictitious vendor intended to test validity. Again, vendors are presented in alphabetical order.

User Comments provides feedback from Phase I online users.

A note of caution is advised in interpretation of the mentions of specific vendors, in sections "Key Vendors To This Group" and "Awareness of Key Vendors".

> Phase I users were asked what information sources/vendors they used, but they were *not* asked to identify their sources for each specific information category.

- Mentions of specific providers by category should therefore be interpreted to mean that, as a group, these users tend to use the vendors identified to meet various information needs. The range of needs is also indicated by the mentions of other types of information categories.

- Vendors of information that is specifically targeted to users within a group in many cases do not appear in the "Key Vendors" list. This does not suggest that there is a void in this type of information. Instead, it suggests that the market is very competitive, with no one vendor obtaining more than "a 25% market share" among these users.

- Similarly, "Awareness of Key Vendors" is not related to the specific category of information, but identifies that this group of Phase II non-users is aware of the services of identified vendors to meet various information needs.

6.2 Information Categories

6.2.1 Audience Assessment Information

U.S. MARKET PERSPECTIVE

Audience assessment databases include quantitative and qualitative information of the performance (in terms of audience or readership) of a variety of communications media including newspapers, magazines, radio, and television. Audience assessment information can be distinguished from other types of marketing and media information by its specialization in media measurement, but the data are often used in combination with demographic and product movement data.

Audience assessment data are used in the U.S. by advertising agencies and in-house advertising departments to assist in media purchase decisions, and by the media to assist in editorial and program direction, sales presentations, and advertising promotions.

In general, several macro trends are changing the environment in the North American market into which audience assessment databases are sold:

> Mega-mergers which tend to consolidate buying units while creating buying power for more sophisticated products;

> A flaccid economy which has led advertisers to cut back on expenditures and to assume more of the functions of the advertising agencies;

> Narrowcast marketing strategies.

SUMMARY OF FINDINGS ON THE CANADIAN MARKET

Media-related sectors -- specifically advertising agencies, entertainment and publishing/printing companies -- constitute the bulk of use of online audience assessment services in Canada.

Penetration of online audience assessment systems in the advertising departments of companies in other sectors appears minimal in Canada at present. More often, information in print form is used. In fact, print versions are also used by planners in marketing and finance.

Audience assessment data is used in combination with online and print sources of demographic, economic and product information, and news. Its use with product movement information, a key combination in the U.S., is less frequent.

Description of Respondents

	Phase I (N=57)		Phase II (N=77)	
	# of R	% of Cell	# of R	% of Cell
No. of Respondents	9	16	13	17
Job Category (Phase II)				
Librarian			0	0
Marketing			10	27
Finance			3	9
Economic Sector				
Advertising Agencies/Market Research	3	60	*	
Agriculture			2	25
Consumer Electronics			1	20
Credit Card			1	100
Education & Non-profit			3	60
Energy/Fuel	1	33		
Entertainment	2	100	2	50
Food & Beverage	1	33	*	
Household & Personal Care Products			2	33
Legal & Accounting Services			1	20
Lodging & Food Service			1	14
Publishing/Printing	1	100		
Transportation (Passenger)	1	50	*	
Total	9		13	
Average Rating (Phase II)			4.0	

* Sector not included in Phase II

Other Categories of Information Used	**Phase I**	**Phase II**
Business Credit	X	
Corporate Information		X
Demographic	X	X
Economic	X	X
Legislative & Government		X
News	X	X
Product Information	X	X

Key Vendors To This Group

Minimum No. of Mentions = 3

Dialog
Info Globe

Only two services -- Dialog and Info Globe -- were mentioned by at least three users in Phase I. However, there were 16 other services, including audience assessment services, that were named by one or two users.

Awareness of Key Vendors

Minimum No. of Mentions = 4

Dow Jones
Dun & Bradstreet
Info Globe
Infomart

User Comments

A trend in new business development among audience assessment information vendors in the U.S. has been the development of joint ventures with services providing related information types. The resulting services integrate audience assessment information with select demographic and product movement information.

Apparently, this is not yet taking place to a significant degree in Canada, as one user of audience assessment data indicated that he would like to see just this type of integration.

One user from the advertising sector also noted that the cost of this information was not a critical factor, since electronic information costs can be billed directly to clients. Instead, his major concern was the breadth of the information currently available.

User needs in this sector included:

> A "proper" service for tracking broadcast and audio clips;

> Better "people-metering" software;

> More information regarding consumer behaviour patterns.

6.1.2 Business Credit Information

U.S. MARKET PERSPECTIVE

Business or commercial credit information includes detailed financial and payment records for specific companies and operating units. Business credit databases include such items as trade payment records and associated credit ratings, balance sheets, income statements, and corporate history.

Business credit information is used in making decisions to extend credit, underwrite insurance, evaluate purchases, and to make other financial and risk decisions. The largest purchasers of business credit information in the U.S. (and Canada) are major manufacturers and wholesalers, insurance companies, banks and other financial institutions.

In North America, Dun & Bradstreet is the largest vendor of business credit information, providing a full range of services to meet customers' needs for electronic and print versions. Competition in this market is targeting specific vertical applications (e.g. transportation & trucking).

SUMMARY OF FINDINGS ON THE CANADIAN MARKET

Business credit ranked fourth in terms of mentions by online users and was identified by representatives from a wide range of economic sectors including automotive, chemical & drugs, containers & packaging, food & beverage, metals & metalworking & machinery, office equipment and computers, publishing & printing, and transportation.

The financial sectors, such as banks & trusts, insurance, and investment banking/management/brokerage undoubtedly also purchase the data via other electronic media, such as magnetic tape.

Description of Respondents

	Phase I (N=57)		Phase II (N=77)	
	# of R	% of Cell	# of R	% of Cell
No. of Respondents	25	44	18	23
Job Category (Phase II)				
Librarians			0	0
Marketing			8	22
Finance			10	29
Economic Sector				
Advertising Agencies/Market Research	2	40	*	
Agriculture			4	50
Automotive	1	100	*	
Banks and Trust Companies	2	40	*	
Chemical & Drugs	2	100	*	
Construction & Building Materials			1	25
Containers & Packaging	1	100	2	50
Education & Non-profit	1	25	3	60
Energy/Fuel	2	67	1	50
Entertainment			2	50
Food & Beverage	3	100	*	
Health Care			2	33
Insurance	2	50	*	
Investment Banking/Management/Brokerage	1	25	*	
Metals & Metalworking & Machinery	2	100	*	
Office Equipment & Computers	1	100	*	
Publishing/Printing	1	100	2	40
Retailing	1	50		
Telecommunications	1	100		
Transportation (Freight)			1	17
Transportation (Passenger)	2	100	*	
Total	25		18	
Average Rating (Phase II)			3.8	

* Sector not included in Phase II

Other Categories of Information Used	**Phase I**	**Phase II**
Corporate Information	X	X
Economic	X	X
Foreign Exchange and Money Market		X
Legislative & Government	X	X
News	X	X
Product Information	X	
Scientific	X	

Key Vendors to This Group

Minimum No. of Mentions = 7

CAN/OLE
Dialog
Dun & Bradstreet
Info Globe
Infomart

Other vendors mentioned by business credit users which are specifically vendors of credit information include local Credit Bureaux and Creditel. There were 38 additional providers mentioned, including 24 which were single-user mentions.

Awareness of Key Vendors

Minimum No. of Mentions = 5

Dow Jones
Dun & Bradstreet
FP Online
Info Globe

User Comments

Users of business credit information indicated that they felt this service to be expensive, though critical to their business. However, it is interesting to note that there were no comments from the 25 users of business credit regarding business credit products or enhancements they would like to see.

6.2.3 Commodities Information

U.S. MARKET PERSPECTIVE

Commodities information includes real-time and delayed pricing as well as intra-day and historical technical information on a variety of basic products (usually agricultural or mineral). Commodities information covers spot and futures contract trading in precious and base metals, petroleum and petroleum by-products, foodstuffs such as grain, sugar, pork, and coffee as well as cotton, hides, wood, and other basic products.

In the U.S., users of commodities information fall into three main groups:

> Commodity brokers, trading advisors, and fund managers;

> Commercial interests, i.e. companies with either a direct interest in commodities markets (such as energy, agribusiness, or large trading companies), or companies using commodities markets as a hedge against a variety of investment exposures;

> Technical traders, i.e. individuals with no underlying commercial interest in commodities production.

The key factors influencing the performance of commodities information in the U.S. are:

> The agricultural economy;

> The national economy;

> International purchasing;

- Stock market performance;
- Stock market volatility;
- Technological sophistication of market participants.

SUMMARY OF FINDINGS ON THE CANADIAN MARKET

Commodities information, either online or via other distribution media, appears in relatively low use across all economic sectors in Canada, even among those from the agricultural sector and those in finance.

Use appears to be restricted to traders and large commercial entities with an indirect interest in the performance of the commodities markets.

Description of Respondents

	Phase I (N=57)		Phase II (N=77)	
	# of R	% of Cell	# of R	% of Cell
No. of Respondents	13	23	12	16
Job Category (Phase II)				
Librarian			2	33
Marketing			6	16
Finance			4	12
Economic Sector				
Agriculture	1	50		
Chemical & Drugs	1	50	*	
Consumer Electronics			2	40
Containers & Packaging			3	75
Education & Non-profit			1	20
Energy/Fuel	1	33		
Food & Beverage	1	33	*	
Health Care			1	17
Household & Personal Care Products	1	100	1	17
Industrial Conglomerates			1	33
Investment Banking/Management/Brokerage	4	100	*	
Metals & Metalworking & Machinery	2	100	*	
Publishing/Printing	1	100		
Telecommunications	1	100		
Transportation (Freight)			3	50
Total	13		12	
Average Rating (Phase II)			3.7	

* Sector not included in Phase II

Other Categories of Information Used	Phase I	Phase II
Business Credit	X	
Corporate Information		X
Demographic		X
Economic	X	X
Foreign Exchange and Money Market	X	X
Legal	X	X
Legislative & Government		X
News	X	X
Product Information	X	X
Product Movement		X
Securities	X	

Key Vendors to This Group

Minimum No. of Mentions = 4

CAN/OLE
Dialog
Info Globe
Reuters

Awareness of Key Vendors

Minimum No. of Mentions = 3

Dow Jones
Dun & Bradstreet
FP Online
Info Globe
Infomart

User Comments

Users of commodities information offered no comments specific to this category of information.

6.2.4 Consumer Credit Information

U.S. MARKET PERSPECTIVE

Consumer credit services provide information on the credit worthiness and credit history of individuals supplied to credit grantors such as banks, retailers including department stores, credit agencies, financial service companies, and to consumers, who are permitted to get information about their own credit worthiness. The data are highly dynamic since grantors seek up-to-the-minute verification of credit profiles before extending loans or giving credit.

Users in the U.S. are credit and retail managers in banks, trust companies, investment banks and brokerage firms, credit card services and other financial services companies, and high value dealers or retailers such as automobile dealerships and real estate agencies -- all seeking information on credit viability and risk. Consumer credit information vendors in the U.S. are serving increasingly smaller business establishments and adding more and more individual credit profiles to their databases.

The following factors control the growth of revenue from consumer credit information in the U.S.:

> The condition of the economy;

> The number of individuals applying for credit, especially home mortgages;

> The number of people moving to different locations, thus creating new credit information needs;

- The increased number of credit card suppliers and the increase in aggregate credit purchasing which results from their advertising and promotion;

- The size of the consumer debtor population.

SUMMARY OF FINDINGS ON THE CANADIAN MARKET

Consumer credit information is typically used to process loan applications for high ticket items such as homes and automobiles, and by financial institutions extending consumer credit (banks & trusts; credit card grantors). Typically these applications are handled by credit departments and local managers.

As well, non-interactive and aggregated consumer credit information can be used by other departments (such as marketing) within credit granting organizations.

Description of Respondents

	Phase I (N=57)		Phase II (N=77)	
	# of R	% of Cell	# of R	% of Cell
No. of Respondents	14	25	11	14
Job Category (Phase II)				
Librarian				
Marketing			6	16
Finance			5	15
Economic Sector				
Agriculture			2	25
Automotive	1	100	*	
Bank & Trust Companies	2	40	*	
Construction & Building Materials			2	50
Containers & Packaging			1	25
Credit Card			1	100
Education & Non-profit			2	40
Energy/Fuel	1	33		
Food & Beverage	1	33	*	
Health Care			2	33
Insurance	1	25	*	
Investment Banking/Management/Brokerage	3	75	*	
Lodging & Food Service			1	14
Metals & Metalworking & Machinery	1	50	*	
Office Equipment & Computers	1	100	*	
Publishing/Printing	1	100		
Retailing	1	50		
Transportation (Passenger)	1	50	*	
Total	14		11	
Average Rating (Phase II)			3.7	

* Sector not included in Phase II

Other Categories of Information Used	Phase I	Phase II
Business Credit	X	X
Corporate Information	X	X
Demographic	X	X
Economic	X	X
Foreign Exchange and Money Market	X	
Legal	X	
Legislative & Government		X
News	X	X
Product Information	X	X
Product Movement		X

Key Vendors to This Group

Minimum No. of Mentions = 4

Dialog
Dun & Bradstreet
FP Online
Info Globe
IP Sharp

Nine other services received multiple mentions.

Awareness of Key Vendors

Minimum No. of Mentions = 3

Dow Jones
Dun & Bradstreet
FP Online
Info Globe

User Comments

Users of consumer credit information commented that online access to this type of information was time-saving, but costly. One user of a local Credit Bureau stated that he is not satisfied with the hardcopy material he receives within minutes of keying in the request and would like to see an increase in the speed and amount of information appearing online.

6.2.5 Demographic Information

U.S. MARKET PERSPECTIVE

Demographic information includes geographic distribution, vital statistics, purchasing, and economic data on human populations and business establishments. Consumer information includes such items as sex, race, age, marital status, occupation and employment, household size and income, location, and purchasing habits while business information includes industrial classification, size in revenues or sales and/or number of employees, executive officers, location, and purchasing data.

Demographic information is often used for market analyses which may also require audience assessment, product information and product movement, and fundamental corporate information. The key users in the U.S. are marketing specialists who believe that success of sales is often predicated on having current information about the characteristics and habits of the target marketplace for products and services to consumers or business establishments. Users rely on the intelligence gathering and monitoring activities of the demographic information producers.

Demographic intelligence is also of vital importance to a broad business and professional community, from the professional site location planner and media buyer to the corporate financial officer, lawyer, librarian, and the reporters and editors who write about the business marketplace.

The industries in the U.S. where users are employed are equally broadly distributed: ad agencies, retail establishments, food & beverage companies, mail order houses, textile & apparel corporations, banks, trust companies, investment banks, government departments, even education and non-profit establishments. The target industries for growth are equally diverse: construction, agriculture, energy, office equipment, paper & forest products, health care, broadcast media, insurance, and industrial conglomerates.

Major factors affecting the growth of demographic information sales in the U.S. are:

> A sluggish economy and low penetration of personal computers in key areas such as marketing departments;

> Lack of awareness of demographic information services;

> Limited understanding among business people of where their advertising dollars go.

SUMMARY OF FINDINGS ON THE CANADIAN MARKET

Demographic information is critical to major organizations in Canada. Demographic data is most often used in conjunction with corporate, economic and product information, and news.

No one industry segment stands out as more likely to use this category, although the penetration of online use can vary within sectors.

A major supplier of demographic information is Statistics Canada, through low-cost publications and online distributors. Dun & Bradstreet data is a second major source. In addition, numerous distributors provide industry specific demographic data.

Description of Respondents

	Phase I (N=57)		Phase II (N=77)	
	# of R	% of Cell	# of R	% of Cell
No. of Respondents	24	42	35	45
Job Category (Phase II)				
Librarian			2	33
Marketing			24	65
Finance			9	26
Economic Sector				
Advertising Agencies/Market Research	3	60	*	
Aerospace/Aviation	1	100	*	
Agriculture			3	38
Banks and Trust Companies	3	60	*	
Chemical & Drugs	1	50	*	
Construction & Building Materials			2	50
Consumer Electronics			3	60
Containers & Packaging			2	50
Credit Card			1	100
Education & Non-profit	1	25	4	80
Energy/Fuel	1	33	1	50
Entertainment	1	50	2	50
Health Care			2	33
Household & Personal Care Products	1	100	3	50
Industrial Conglomerates			1	33
Insurance	1	25	*	
Investment Banking/Management/Brokerage	3	75	*	
Legal & Accounting Services			1	20
Lodging & Food Service			4	57
Metals & Metalworking & Machinery	1	50	*	
Paper & Forest Products	2	100	*	
Publishing/Printing	1	100		
Retailing	1	50	4	80
Telecommunications	1	100		
Transportation (Freight)			2	33
Transportation (Passenger)	1	50	*	
Other	1	100	*	
Average Rating (Phase II)			3.3	

Other Categories of Information Used	**Phase I**	**Phase II**
Corporate Information	X	X
Economic	X	X
Legislative & Government		X
News	X	
Product Information	X	X

Key Vendors to This Group

Minimum No. of Mentions = 6

- CAN/OLE
- CSG
- Dialog
- Info Globe
- Infomart

Twelve other services received multiple mentions.

Awareness of Key Vendors

Minimum No. of Mentions = 9

- Dow Jones
- Dun & Bradstreet
- Info Globe

User Comments

Users stated that they would like to see more demographic information in conjunction with corporate and industry information. They would like more information on markets by sales and other parameters.

Government information was also requested: online searchable data or microfiche from Consumer and Corporate Affairs, and more demographic information comparable to that which is available through Statistics Canada.

6.2.6 Economic Information

U.S. MARKET PERSPECTIVE

Economic information covers data in numerical, textual, and graphic form which details the historical production and consumption characteristics of economies, at various levels and for various subsets of economies. It includes such subject areas as trade and trade payments, employment, flow of funds, country assessment and risk, industrial performance, and micro- and macroeconomic forecasting.

Economic and econometric data are manipulated with elaborate applications software programs for comparative analysis and forecasting. Economic analyses often combine economic information with other information types such as demographic, fundamental corporate, and business and consumer credit, as well as with proprietary internal databases.

Users in the U.S. tend to be professional analysts such as money or fund managers, economists, planners, or marketers; even purchasing agents of critical goods and services. Many users are in commercial banking, investment banking and brokerage firms, as well as manufacturing, retailing, industrial conglomerates, and governments.

The key factor controlling the revenues and growth of this information type in the U.S. is world economic performance. The relationship between sales of economic information services and the economy itself is generally perceived to be inverse.

SUMMARY OF FINDINGS ON THE CANADIAN MARKET

IP Sharp, recently purchased by Reuters, has developed an international reputation for its economic/ econometric databases.

However, both users of online economic information and those who use economic data via other media expressed concerns about the scope and coverage of information available.

Economic data is used in conjunction with several other online services, including corporate, demographic, legal, legislative & government, news, product and scientific information.

Description of Respondents

	Phase I (N=57)		Phase II (N=77)	
	# of R	% of Cell	# of R	% of Cell
No. of Respondents	33	58	55	71
Job Category (Phase II)				
Librarian			5	83
Marketing			24	65
Finance			26	76
Economic Sector				
Advertising Agencies/Market Research	2	40	*	
Agriculture	1	50	5	63
Banks and Trust Companies	4	80	*	
Chemical & Drug	2	100	*	
Construction & Building Materials			3	75
Consumer Electronics			3	60
Containers & Packaging			3	75
Credit Card			1	100
Education & Non-profit	3	75	4	80
Energy/Fuel	3	100	2	100
Entertainment	1	50	2	50
Food & Beverage	2	66	*	
Health Care			2	33
Household & Personal Care Products	1	100	6	100
Industrial Conglomerates			3	100
Insurance	2	50	*	
Investment Banking/Management/Brokerage	4	100	*	
Legal & Accounting Services	1	25	2	40
Lodging & Food Service			7	100
Metals & Metalworking & Machinery	2	100	*	
Paper & Forest Products	2	100	*	
Publishing/Printing	1	100	1	20
Retailing			4	80
Telecommunications	1	100	1	100
Transportation (Freight)			6	100
Transportation (Passenger)	1	50	*	
Average Rating (Phase II)			3.5	

Other Categories of Information Used	Phase I	Phase II
Business Credit	X	
Corporate Information	X	X
Demographic	X	X
Legal	X	
Legislative & Government	X	X
News	X	X
Product Information	X	
Scientific	X	

Key Vendors to This Group

Minimum No. of Mentions = 9

- CAN/OLE
- Dialog
- FP Online
- Info Globe
- Infomart

Sixteen other vendors also received multiple mentions.

Awareness of Key Vendors

Minimum No. of Mentions = 14

- Dow Jones
- Dun & Bradstreet
- FP Online
- Info Globe
- Infomart

User Comments

There is great concern among U.S. users over the relevance and accuracy of this type of data. This same concern was expressed by users in this study who commented that the economic information available is of poor quality and coverage.

One user stated that he would like to see more information on investment banking.

Another user stated that economic forecasting databases (especially those which are non-American) are particularly costly.

6.2.7 Fundamental Corporate and Historical Pricing Information

U.S. MARKET PERSPECTIVE

Fundamental corporate performance data and forecasts, and historical pricing information on corporate debt or equity issues which are, have been, or will be publicly traded are all included in this information type. It comprises numeric and textual data from SEC filings, annual reports, investment bank research reports, together with standardized time series of historical equity prices.

Fundamental corporate information is distinguished from certain categories of business news, such as earnings announcements, primarily depending on the completeness of the financial data offered. A few financial statistics in the context of a news item would not be included in this category. Historical pricing information differs from current (including real-time) pricing in that it is provided as a retrospective time series and is updated no more frequently than daily. Historical pricing is often used for end-of-day reconciliations and long term pricing adjustments for splits and other restructuring.

In the U.S., professional investors (including portfolio managers, investment advisors, plan sponsors, and trust departments in banks) use fundamental corporate information, often in conjunction with historical pricing and earnings estimate databases, to:

> Screen for companies that match their investment criteria;

> Get detailed financial reports with historical information and ratio analysis on selected companies;

> Download selected information into spreadsheets for quarterly comparisons, industry comparisons, growth models, and cash flows models;

> Monitor key characteristics of the companies they own to watch for early signs of potential weakness.

Merger and acquisition specialists and investment bankers use these databases to target acquisition candidates and to perform valuation exercises. Corporate finance departments use them to evaluate investment decisions and to monitor the performance of past investments. Corporate strategic planning departments use fundamental and historic pricing information for competitive analysis. Other users include traders, individual investors, credit analysts, and marketing analysts.

The key factors affecting sales of this information type in the U.S. are the behaviour of the financial markets and the accelerating exploitation of advanced, largely PC-based technology. The most basic day-to-day indicator of the use of corporate information is trading volume. A secondary indicator is the level of merger and acquisition activity.

SUMMARY OF FINDINGS ON THE CANADIAN MARKET

Because of the differing reporting requirements of Canadian vs U.S. stock exchanges, a significant source of detailed corporate information -- the SEC filings or 10Ks -- does not have a Canadian equivalent. As a result, less detailed information is available on Canadian companies and Canadian operations of U.S. based companies, compared to information that is readily available in the U.S.

The significant demand for corporate information is being met by a growing number of corporate databases being offered by Canadian-based vendors.

Not surprisingly, use of online services offering corporate information is widespread across industry sectors. It is most often used in with conjunction with online economic, product information and news sources.

Description of Respondents

	Phase I (N=57)		Phase II (N=77)	
	# of R	**% of Cell**	**# of R**	**% of Cell**
No. of Respondents	34	60	54	70
Job Category (Phase II)				
Librarian			3	50
Marketing			27	73
Finance			24	71
Economic Sector				
Advertising Agencies/Market Research	3	60	*	
Agriculture			7	88
Banks and Trust Companies	4	80	*	
Chemical & Drugs	2	100	*	
Construction & Building Materials	1	100	2	50
Consumer Electronics			5	100
Containers & Packaging	1	100	4	100
Education & Non-profit	2	50	3	60
Energy/Fuel	3	100	1	50
Entertainment			3	75
Food & Beverage	3	100	*	
Health Care			3	50
Household & Personal Care Products			4	67
Industrial Conglomerates			2	67
Insurance	1	25	*	
Investment Banking/Management/Brokerage	4	100	*	
Legal & Accounting Services	1	25	2	40
Lodging & Food Service			7	100
Metals & Metalworking & Machinery	2	100	*	
Paper & Forest Products	2	100	*	
Publishing/Printing	1	100	2	40
Retailing	1	50	3	60
Telecommunications	1	100	1	100
Transportation (Freight)			5	83
Transportation (Passenger)	2	100	*	
Average Rating (Phase II)			3.4	

* Sector not included in Phase II

Other Categories of Information Used	Phase I	Phase II
Business Credit	X	
Economic	X	X
Legislative & Government		X
News	X	X
Product Information	X	
Scientific	X	

Key Vendors to This Group

Minimum No. of Mentions = 9

CAN/OLE
Dialog
FP Online
Info Globe
Infomart

Seventeen other services also received multiple mentions.

Awareness of Key Vendors

Minimum No. of Mentions = .14

Dow Jones
Dun & Bradstreet
FP Online
Info Globe

User Comments

One major user of corporate information stated that these services are somewhat overpriced and felt that this was unlikely to change due to the great demand for this type of information.

Several comments were made about the poor quality of this type of information. Users would like to see this online information become more accurate, more complete, and more timely. One user commented that the corporate database he uses is updated only once a year (the same as the print version).

There were several comments made about the lack of Canadian corporate information, and part of this results from the differences in reporting requirements for Canadian vs. U.S. companies. For example, users would like to see more information in Canadian annual reports (i.e. sales figures), and other ownership information. Users also believe that they require database services containing more competitive analysis. One user stated that he would like to see a database containing official press releases for Canadian companies, similar to those offered by Mead Data and Dialog.

6.2.8 Foreign Exchange and Money Market Information

U.S. MARKET PERSPECTIVE

Foreign exchange and money market information is pricing and technical data related to the exchange of currencies, currency futures, bankers acceptances, certificates of deposit, commercial paper, and government securities including treasury notes, bills, bonds and their associated options.

The foreign exchange and money market information type includes historical pricing services as well as real time market information services such as Reuters and Telerate.

Users of foreign exchange and money market information in the U.S. are mainly institutional traders, (i.e. traders within banks and investment or insurance companies), although an increasing number of corporate treasurers and large individual investors are becoming active in these markets.

The volatility and growth of the foreign exchange and money markets have contributed to the growth of the information vendors serving these markets. There is clearly increased awareness of the potential profits available to institutional and corporate speculators, and of the potential penalties for the corporations and institutions which do not actively manage their exposure in these markets. Approximately 90% of foreign exchange trading is speculative in nature.

SUMMARY OF FINDINGS ON THE CANADIAN MARKET

In addition to the institutional and speculative trading, foreign exchange and money market data is critical to those organizations selling into, or buying from the U.S. The fluctuations in the dollar, especially the strengthening of the Canadian dollar that has taken place recently, will have a major impact on the bottom line statements of these companies.

Foreign exchange and money market data is used in combination with numerous other online services, including economic, commodities and securities databases.

Description of Respondents

	Phase I (N=57)		Phase II (N=77)	
	# of R	% of Cell	# of R	% of Cell
No. of Respondents	19	33	27	35
Job Category (Phase II)				
Librarian			1	17
Marketing			6	16
Finance			20	59
Economic Sector				
Agriculture			3	38
Automotive	1	100	*	
Banks and Trust Companies	2	40	*	
Chemical & Drugs	1	50	*	
Construction & Building Materials			2	50
Consumer Electronics			3	60
Containers & Packaging			3	75
Education & Non-profit	1	25	2	40
Energy/Fuel	1	33	1	50
Entertainment			1	25
Food & Beverage	1	33	*	
Health Care			1	17
Household & Personal Care Products	1	100	2	33
Industrial Conglomerates			1	33
Insurance	2	50	*	
Investment Banking/Management/Brokerage	4	100	*	
Legal & Accounting Services			1	20
Lodging & Food Service			1	14
Metals & Metalworking & Machinery	2	100	*	
Publishing/Printing	1	100	3	60
Telecommunications	1	100		
Transportation (Freight)			3	50
Transportation (Passenger)	1	50	*	
Total	19		27	
Average Rating (Phase II)			3.9	

* Sector not included in Phase II

Other Categories of Information Used	Phase I	Phase II
Business Credit	X	
Commodities	X	
Corporate Information	X	X
Demographic	X	
Economic	X	X
Legal	X	X
Legislative & Government	X	X
News		X
Product Information	X	
Scientific	X	
Securities	X	

Key Vendors to This Group

Minimum No. of Mentions = 5

CAN/OLE
Dialog
Info Globe
Infomart

Eleven other services received multiple mentions.

Awareness of Key Vendors

Minimum No. of Mentions = 7

Dow Jones
Dun & Bradstreet
FP Online
Info Globe
Infomart

User Comments

Phase I users made no specific comments related to the foreign exchange and money markets services that they currently use.

6.2.9 Legal Information

U.S. MARKET PERSPECTIVE

Legal information includes the citations, abstracts and full text of foreign, federal and state and provincial statutes, local law, case law, regulations, and court decisions. Electronic legal reference aids are also included.

The legal information segment is distinct from the legislative and governmental information type in that it does not include, for example, data on the law-making process. Legal information may be distinguished from patent and trademark information as the latter is restricted to technical data on inventions and registration information.

The primary application for legal information services is to make electronic searches of voluminous case law. Additional information types carried by legal information vendors are: news, legislation, scientific, fundamental, corporate, and product information (e.g., official Airlines Guide).

In the U.S., librarians/information specialists, attorneys, accountants, and corporate financial officers are the primary users of legal information services.

The following key factors influence the growth of legal information services in the U.S.:

> Increased exposure of today's law school students to electronic searching;

> Growth of office automation among law offices and courts;

> Increased computer sophistication among lawyers;

> An expanding selection of, and increasing competition among, legal databases;

> Increasing computerization of government agencies.

SUMMARY OF FINDINGS ON THE CANADIAN MARKET

Competition in online legal databases has increased in Canada, in terms of both distribution and marketing. While legal information is already used in electronic and printed form in a wide range of companies and by those outside the legal profession, this competition will stimulate growth in this category.

Like their counterparts in the U.S., the next generation of practitioners will be more receptive to new ways of doing business. Not only with they be experienced computer users, they will have exposure to legal databases and a better understand the price/value of electronic searching.

Description of Respondents

	Phase I (N=57)		Phase II (N=77)	
	# of R	% of Cell	# of R	% o Cell
No. of Respondents	20	35	31	40
Job Category (Phase II)				
Librarian			2	33
Marketing			13	35
Finance			16	47
Economic Sector				
Agriculture			1	13
Banks and Trust Companies	3	60	*	
Construction & Building Materials			3	75
Consumer Electronics			2	40
Containers & Packaging			1	25
Education & Non-profit	1	25	2	40
Energy/Fuel	3	100	1	50
Entertainment			4	100
Food & Beverage	1	33	*	
Health Care			4	67
Household & Personal Care Products			4	67
Industrial Conglomerates			1	33
Insurance	1	25	*	
Investment Banking/Management/Brokerage	3	75	*	
Legal & Accounting Services	3	75	1	20
Lodging & Food Service			2	29
Metals & Metalworking & Machinery	2	100	*	
Publishing/Printing	1	100	2	40
Telecommunications	1	100		
Transportation (Freight)			3	50
Transportation (Passenger)	1	50	*	
Total	20		31	
Average Rating (Phase II)			4.1	

* Sector not included in Phase II

Other Categories of Information Used	**Phase I**	**Phase II**
Business Credit	X	
Corporate Information	X	X
Economic	X	X
Legislative & Government	X	X
News	X	X
Product Information	X	

Key Vendors to This Group

Minimum No. of Mentions = 5

CAN/OLE
CSG
Dialog
Dow Jones
Dun & Bradstreet
FP Online
Info Globe
Infomart
Mead Data
QL Systems

Ten other vendors received multiple mentions.

Awareness of Key Vendors

Minimum No. of Mentions = 8

Dow Jones
Dun & Bradstreet
FP Online
Info Globe
Infomart

User Comments

Phase I users made no specific comments related to the legal services that they currently use.

6.2.10 Legislative & Governmental Information

U.S. MARKET PERSPECTIVE

Legislative and governmental information consists of:

> Indices, citations, abstracts, and the full text of non-legal and non-regulatory government publications;

> Legislative tracking services for federal, provincial, state, and municipal legislation;

> Information on the research and fiscal activities of government, including procurement for defense, law enforcement, information management, committee and subcommittee activities, voting records, notices, hearings, calendars of events, and meetings.

Legal information, the most closely-related information type, includes case law, full coverage of international, federal, provincial, state, and local law as well as comprehensive coverage of regulations and court decisions.

Because the legislative and governmental information category covers such diverse subjects as fair employment practices, chemical substances control, occupational safety and health, gun control, international relations, political contributions, and legislation, the range of users and purchasers in the U.S. is just as wide. Large corporations in industries such as office equipment, energy, and telecommunications, trade associations, law offices, accounting firms, lobbying groups, and politicians' offices are all represented.

The job functions of legislative and governmental information users in the U.S. include scientists and researchers, defense contractors, purchasing agents, personnel managers, public relations specialists, corporate officers, product developers, federal procurement officials, government contractors, information specialists, and general managers.

The key factors influencing sales of legislative and governmental information in the U.S. are:

> The health of the economy;

> The level of government contracting;

> Acceptance of electronic distribution of information;

> Penetration of personal computers among user organizations;

> The amount of support which both states and Federal government give to local government;

> The amount of federal and state regulation;

> The emergence of critical issues in domestic and world politics;

> The rejection of online information technology by personnel departments;

> Lack of technical sophistication among regulatory information vendors;

> Recent onslaught of competition in this area.

SUMMARY OF FINDINGS ON THE CANADIAN MARKET

While most organizations incorporate legislative and government information in their plans and activities, the information is primarily used in non-electronic media.

The government primarily uses a paper-based system of distribution. This provides ready access to information and documents at no or low cost to the public.

In addition, the government provides electronic access to specific information via distributors. It becomes the task of these distributors to convince potential users of the cost/benefit of electronic access.

Users would like to see an improvement in both the coverage and quality of legislative and government information. This depends to some extent on government's willingness to increase distribution of information in electronic form. Moreover, it depends on distributors' success in developing a critical mass of users, to profitably support additional services and increased R&D. Distributors are currently faced with:

> Competition with alternative, low cost government sources.

> Competition with other distributors marketing versions of the same government source data.

Description of Respondents

	Phase I (N=57)		Phase II (N=77)	
	# of R	% of Cell	# of R	% of Cell
No. of Respondents	22	39	57	74
Job Category (Phase II)				
Librarian			5	83
Marketing			28	76
Finance			24	71
Economic Sector				
Agriculture	1	50	6	75
Banks and Trust Companies	3	60	*	
Construction & Building Materials			3	75
Consumer Electronics			3	60
Containers & Packaging			4	100
Education & Non-profit	3	75	4	80
Energy/Fuel	1	33	1	50
Entertainment	1	50	4	100
Food & Beverage	2	67	*	
Health Care			6	100
Household & Personal Care Products			4	67
Industrial Conglomerates			2	67
Insurance	3	75	*	
Investment Banking/Management/Brokerage	2	50	*	
Legal & Accounting Services			5	100
Lodging & Food Service			5	71
Metals & Metalworking & Machinery	1	50	*	
Paper & Forest Products	1	50	*	
Publishing/Printing	1	100	2	40
Retailing			3	60
Telecommunications	1	100	1	100
Transportation (Freight)			4	67
Transportation (Passenger)	2	100	*	
Total	22		57	
Average Rating (Phase II)			3.5	

* Sector not included in Phase II

	Phase I	Phase II
Other Categories of Information Used		
Business Credit	X	
Corporate Information	X	X
Economic	X	X
Foreign Exchange and Money Market	X	
Legal	X	
News	X	X
Product Information	X	
Scientific	X	

Key Providers to This Group

Minimum No. of Mentions = 6

CAN/OLE
Dialog
Dun & Bradstreet
FP Online
Info Globe
Infomart

Thirteen other vendors received multiple mentions.

Awareness of Key Vendors

Minimum No. of Mentions = 15

Dow Jones
Dun & Bradstreet
FP Online
Info Globe
Infomart

User Comments

As noted, users stated that access to Canadian government information online is poor and they would like to see more government material available. Specifically mentioned were official government press releases from Investment Canada and Consumer and Corporate Affairs.

6.2.11 News

U.S. MARKET PERSPECTIVE

News in the form of indices, abstracts, citations, and the full text of new items represents the electronic marketplace for both global/general and specific business and industrial news. It includes the electronic information products derived from a variety of sources, from newspapers, magazines, newswires, and newsletters to news from farm bureaus, public/press relations offices, associations, and societies covering foreign and domestic affairs, business, sports, the arts & sciences, law, and financial commodities markets.

The core user-group in the U.S. is composed of librarians and information specialists, although there is reasonably heavy use from brokers and professional traders, public affairs specialists, planners, marketers, and corporate managers. The other job functions indicating usage of electronic news information services include lawyers, accountants, loan officers, planners, farmers, financial analysts, reporters & editors, and individual investors.

The market for news crosses all industries, although provider respondents in the U.S. gave high ratings to Fortune 500 and industrial conglomerates, brokerage and investment banks, and government.

The main application of news databases is for research of facts, statistics, trends, events, and recent historical information about people, corporations, institutions, places, products, dates, issues, events, and other newsworthy situations.

Factors controlling the growth of news vendors in the U.S. are:

> The competition to match data, services, quality, and distribution efficiency with real business information needs on a timely basis;

> Increased interest in real-time and current information, to support management decision making;

> Availability of personal computers and other desktop access equipment, especially to management;

> Costs (to the vendor) of business development and of information acquisition;

> Ability to target news which is necessary, not discretionary:

> Ease of access (log on) and affordable pricing;

> Reliability of terminal equipment and telecommunications links;

> The emergence of crucial national and international issues, and the degree to which business conditions are affected by them;

> The rate of globalization of markets;

> Education of the marketplace, particularly the end-user community, to the value of electronic information services;

> The escalation of knowledge workers' salaries;

> Increasingly centralized information purchasing in mid-sized companies;

> Development of integrated office information systems;

> Increasing budgets for consumption of outside information sources.

SUMMARY OF FINDINGS ON THE CANADIAN MARKET

More users mentioned use of online news services than any other category of information.

The competitive situation for news services has changed. Five years ago, Info Globe was the only serious contender in high quality, full text Canadian news information, and competition came primarily from newswire services. At that time, FP and Infomart were experimenting with alternative distribution media, including videotex. Now, with the support of print-publishing parents companies, FP Online and Infomart are aggressively competing for share of market in the electronic publishing business.

This level of competition appears to be creating positive conditions in the marketplace:

> It was the single category of information where major improvements in the quality, scope and coverage of information were recognized.

> Even among non-users, there is a high level of awareness of the electronic services provided by these vendors across all information types.

This receptivity in the marketplace, complemented by the fact that news services are widely applicable to a variety of economic sectors and job functions, no doubt sets the stage for growth in the category.

Description of Respondents

	Phase I (N=57)		Phase II (N=77)	
	# of R	% of Cell	# of R	% of Cell
No. of Respondents	37	65	59	77
Job Category (Phase II)				
Librarian			4	67
Marketing			32	86
Finance			23	68
Economic Sector				
Advertising Agencies/Market Research	3	60	*	
Agriculture	1	50	5	63
Banks and Trust Companies	3	60	*	
Chemical & Drugs	1	50	*	
Construction & Building Materials			3	75
Consumer Electronics			3	60
Containers & Packaging	1	100	4	100
Credit Card			1	100
Education & Non-profit	3	75	5	100
Energy/Fuel	3	100	2	100
Entertainment			3	75
Food & Beverage	3	100	*	
Health Care			5	83
Household & Personal Care Products	1	100	5	83
Industrial Conglomerates			2	67
Insurance	2	50	*	
Investment Banking/Management/Brokerage	4	100	*	
Legal & Accounting Services	3	75	3	60
Lodging & Food Service			5	71
Metals & Metalworking & Machinery	2	100	*	
Paper & Forest Products	2	100	*	
Publishing/Printing	1	100	5	100
Retail			4	80
Telecommunications	1	100		
Transportation (Freight)			4	67
Transportation (Passenger)	2	100	*	
Other	1	100	*	
Average Rating (Phase II)			3.8	

Other Categories of Information Used	**Phase I**	**Phase II**
Business Credit	X	
Corporate Information	X	X
Demographic	X	
Economic	X	X
Legal	X	
Legislative & Government	X	X
Product Information	X	

Key Providers to This Group

Minimum No. of Mentions = 10

Dialog
FP Online
Info Globe
Infomart

In addition, eighteen other services received multiple mentions.

Awareness of Key Vendors

Minimum No. of Mentions =.15

Dow Jones
Dun & Bradstreet
FP Online
Info Globe

User Comments

Users commented that they would like to see more Canadian news online (French language newspapers and newspapers from Eastern and Western Canada were mentioned specifically) although availability is perceived to be improving. Users would like to see all

Canadian news available on one service and searchable all at once.

Some concern was expressed over cost as well as inconsistent and inaccurate indexing of online news.

6.2.12 Patent and Trademark Information

U.S. MARKET PERSPECTIVE

Patent information contains publicly-available citations, indices, abstracts and full text of patents, as well as patent transfer, reissuance, and litigation information. Trademark information includes product descriptions or services, and filing and registration information.

Patent and trademark information may be characterized as dealing with technical data on inventions and registration information respectively. The legal, legislation, and government information segments are distinct in that they consist primarily of laws, the law-making process, or executive agency regulations.

The primary application for patent and trademark information is to make electronic searches of voluminous technical and registration records. Only one of the surveyed vendors in the U.S. study reported offering additional information types, i.e., bankruptcy and corporate information.

The primary users in the U.S. of patent and trademark information tend to be corporate and government librarians/information specialists, government patent and trademark researchers, corporate attorneys and paralegals, corporate marketing and licensing professionals, product developers, and financial analysts.

The following factors exert a positive influence on the growth of patent and trademark information in the U.S.:

> Growing market awareness of the benefits of accessing data electronically;

> Significant cost savings compared with traditional custom consulting;

> Rapid expansion of product development in the computer, pharmaceutical, and toy industries;

> "Push" influence of U.S. vendors through international electronic gateways in awakening foreign markets;

> "Pull" influence of selected foreign governments in subsidizing research and development as a catalyst to strengthen respective economies.

SUMMARY OF FINDINGS ON THE CANADIAN MARKET

While the influences affecting the market for patent and trademark information may be similar, the vendors in Canada are typically not restricted to serving this market alone. More often, patent & trademark databases are marketed alongside other types of legislative & government databases.

Within large organization, the frequent need for patent and trademark information virtually necessitates its access in an electronic version by information specialists. However, printed versions may be used to a lesser extent by marketing and financial analysts.

Description of Respondents

	Phase I (N=57)		Phase II (N=77)	
	# of R	% of Cell	# of R	% of Cell
No. of Respondents	18	32	13	17
Job Category (Phase II)				
Librarian			1	17
Marketing			9	24
Finance			3	9
Economic Sector				
Agriculture			2	25
Banks and Trust Companies	1	20	*	
Chemical & Drugs	2	100	*	
Construction & Building Materials	1	100	1	25
Consumer Electronics			1	20
Containers & Packaging	1	100		
Education & Non-profit	2	50	2	40
Energy/Fuel	1	33		
Entertainment			2	50
Food & Beverage	2	67	*	
Health Care			2	33
Household & Personal Care Products			2	33
Lodging & Food Service			1	14
Metals & Metalworking & Machinery	2	100	*	
Paper & Forest Products	2	100	*	
Publishing/Printing	1	100		
Retailing	1	50		
Telecommunication	1	100		
Transportation (Passenger)	1	50	*	
Total	18		13	
Average Rating (Phase II)			4.2	

* Sector not included in Phase II

Other Categories of Information Used	Phase I	Phase II
Business Credit	X	
Corporate Information	X	X
Demographic	X	X
Economic	X	
Legal		X
Legislative & Government	X	X
News		X
Product Information		X
Product Movement	X	
Real Estate	X	
Scientific	X	

Key Providers to This Group

Minimum No. of Mentions = 5

BRS
CAN/OLE
CSG
Dialog
Info Globe
Infomart

Seven other services received multiple mentions.

Awareness of Key Vendors

Minimum No. of Mentions = 4

Dow Jones
Dun & Bradstreet
FP Online
Info Globe
Infomart

User Comments

Current users offered no specific comments related to patents and trademark services.

6.2.13 Product Information

U.S. MARKET PERSPECTIVE

Product information consists of textual and numeric data relating to the cost, characteristics, and availability of products and services of great diversity, including: airplanes, audiovisual materials, real estate, colleges & universities, semiconductor chips, vehicles, military supplies, products advertised in yellow-page directories, used computers, software, and consulting services. Even databases that quantify advertising expenditures by product are included.

Excluded are product movement databases that provide information on the ordering, shipment, inventory, and sales of products by brand name or manufacturer. Also excluded are audience assessment databases, including quantitative and qualitative information on the performance of communications media, and vertical market/operational databases that serve or monitor the operations of a specific vertical market or industry.

A number of product information vendors in the U.S. are devoted strictly to information about products -- Aztex Hotel Information Service; Videolog (electrical and electronic components); and Comp-U-Store shopping service, with descriptions and prices of nationally advertised consumer products.

However, many more deliver product information nested within a service, including other information types such as Demographic, Scientific, or Vertical Market/Operational. These are exemplified by such diverse distributors as Sabre and Apollo, which in addition to ordering and confirmation services, provide hotel and travel information, and by Dialog Information Services, which offers a variety of product information among its large array of scientific and business databases.

Vendors of product information in the U.S. are a diverse group including CDA Spectrum (pension plans), MDC's Micromedex (health care & drug products), CompuServe (movies, consumer goods, insurance, drugs, music, cars, colleges, etc.), INET, Rand McNally's Milemaker (carrier route mileage), International Research & Evaluation (optics, lasers, toxic substances, land, etc.), and Delphi.

Product information is often coupled with manipulative software, frequently offline, for report writing, integration with Point-of-Sale data, messaging, and other applications.

Users in the U.S. are as diverse as the product information they seek. They include purchasing agents, meeting planners, consumers seeking to buy, logistics personnel, sales people, automobile mechanics, travellers for pleasure and business, electronic engineers seeking specifications for products they are creating through computer-aided design, field service maintenance & repair staff, accountants, librarians, and general management. The industries and institutions in which users operate are equally diverse, from education to government to health care to home hardware.

There are five key factors which influence the growth of product information services in the U.S.:

> The economic situation;

> The awareness and acceptance of electronic information services;

> Trends in marketing, particulary to consumers;

> Improvements in technology;

> The globalization of business, especially the development of international competition.

SUMMARY OF FINDINGS ON THE CANADIAN MARKET

Although there is widespread use of this category, product information specifically related to the Canadian market is lacking.

In the U.S., most vendors have carved niche markets, and there is the demand to support the costs of collecting and maintaining this information. Vendors can afford to specialize, and it is typically highly specialized information that is required. As well, these services have an international appeal for companies wanting to compete in the U.S. market.

The critical mass is apparently not there to support similar service development for the Canadian market. If a change is to occur in this situation, it is likely to come from two forces:

> Conversion of internal and operational databases to commercially available services, thus leveraging the "sunk costs" of development and maintenance.

> Widespread use of micro-computer based technology with standard software packages that limit the cost of development.

Description of Respondents

	Phase I (N=57)		Phase II (N=77)	
	# of R	% of Cell	# of R	% of Cell
No. of Respondents	25	44	32	42
Job Category (Phase II)				
Librarian			4	67
Marketing			21	57
Finance			7	21
Economic Sector				
Advertising Agencies/Market Research	2	40	*	
Agriculture			3	38
Banks and Trust Companies	2	40	*	
Chemical & Drugs	2	100	*	
Construction & Building Materials	1	100	1	25
Consumer Electronics			4	80
Containers & Packaging	1	100	2	50
Education & Non-profit	2	50	2	40
Energy/Fuel	2	67	1	50
Entertainment			2	50
Food & Beverage	3	100	*	
Health Care			2	33
Household & Personal Care Products	--		5	83
Industrial Conglomerates			1	33
Investment Banking/Management/Brokerage	2	50	*	
Lodging & Food Service			4	57
Metals & Metalworking & Machinery	2	100	*	
Office Equipment & Computers	1	100	*	
Paper & Forest Products	2	100	*	
Publishing/Printing	1	100		
Retailing			3	60
Telecommunications	1	100	1	100
Transportation (Freight)			1	17
Transportation (Passenger)	1	50	*	
Total	25		32	
Average Rating (Phase II)			3.9	

Other Categories of Information Used	**Phase I**	**Phase II**
Business Credit	X	
Corporate Information	X	X
Demographic	X	X
Economic	X	X
Legal	X	
Legislative & Government	X	X
News	X	X
Patents & Trademarks	X	
Product Movement	X	X
Scientific	X	

Key Providers to This Group

Minimum No. of Mentions = 7

CAN/OLE
Dialog
Info Globe
Infomart

Thirteen other services also received multiple mentions.

Awareness of Key Vendors

Minimum No. of Mentions = 8

Dow Jones
Dun & Bradstreet
FP Online
Info Globe
Infomart

User Comments

As noted above, users stated that they need more Canadian databases for product information and that the information these databases contain should be in more detail than that which is currently available.

6.2.14 Product Movement Information

U.S. MARKET PERSPECTIVE

Product movement databases provide information on the ordering, shipment, inventory, and sales of products by brand name or manufacturer. Products typically traced include magazines, personal care products, and food. However, a wide range of other products are tracked by such databases, including pharmaceutical, import/export commodities of all kinds, computer hardware and software, petroleum products, and so on.

These databases are distinguished from other marketing and media databases in that they track the sales and distribution of products in specific areas or locations, rather than focusing on availability or aggregate economic profiles of product classes.

Most expenditures in the U.S. for product movement information are made by consumer-oriented companies. However, the overall market segment is spread over several vertical markets with distinctive and widely varying needs. Users are primarily market research analysts, although a trend is underway to provide data and analysis to upper-level decision makers such as product or brand managers.

The sale of product movement information in the U.S. thrives on the intense competition between suppliers and promoters of packaged foods and beverages, personal care products, and household goods.

There is a direct relationship between the growth of the product movement information business and the size of the suppliers' market research budgets. New product introductions also have a bearing on sales of this information type.

SUMMARY OF FINDINGS ON THE CANADIAN MARKET

An established standard of doing business in consumer and packaged goods industries dictates a high demand for product movement information. A huge capital investment has been made in sophisticated data collection and analysis methods. Still, this study indicates that the delivery media to clients is often paper-based.

Product movement information in other economic sectors is less sophisticated, suffering from the same problems of a lack of critical mass, discussed earlier.

Description of Respondents

	Phase I (N=57)		Phase II (N=77)	
	# of R	% of Cell	# of R	% of Cell
No. of Respondents	15	26	25	32
Job Category (Phase II)				
Librarian			3	50
Marketing			16	43
Finance			6	18
Economic Sector				
Advertising Agencies/Market Research	2	40	*	
Agriculture			3	38
Banks and Trust Companies	2	40	*	
Chemical & Drugs	1	50	*	
Construction & Building Materials			1	25
Consumer Electronics			3	60
Containers & Packaging	1	100	1	25
Education & Non-profit	2	50	1	20
Entertainment			1	25
Health Care			1	17
Household & Personal Care Products	1	100	4	67
Industrial Conglomerates			1	33
Investment Banking/Management/Brokerage	1	25	*	
Lodging & Food Service			3	43
Metals & Metalworking & Machinery	1	50	*	
Paper & Forest Products	1	50	*	
Publishing/Printing	1	100		
Retailing			3	60
Telecommunications	1	100	1	100
Transportation (Freight)			2	33
Transportation (Passenger)	1	50	*	
Total	15		25	
Average Rating (Phase II)			3.9	

* Sector not included in Phase II

Other Categories of Information Used	Phase I	Phase II
Business Credit	X	
Corporate Information	X	X
Demographic	X	X
Economic	X	X
Legal	X	
Legislative & Government	X	X
News	X	X
Patents & Trademarks	X	
Product Information	X	X
Product Movement	X	
Scientific	X	
Vertical Market/Operational	X	

Key Providers to This Group

Minimum No. of Mentions = 4

CAN/OLE
Dialog
Info Globe
Infomart

Ten other services received multiple mentions.

Awareness of Key Vendors

Minimum No. of Mentions = 7

Dow Jones
Dun & Bradstreet
FP Online
Info Globe
Infomart

User Comments

Users stated that the volume of information contained in product movement information databases is so great that problems are encountered in storage and multi-user access. There was also some concern expressed with the accuracy of this type of information.

6.2.15 Real Estate

U.S. MARKET PERSPECTIVE

Real estate information includes publicly-available information on the location, price, ownership, financing, features, and the availability of commercial and residential real estate. It also encompasses computerized loan origination data regarding mortgage rates and availability.

The primary application of real estate information services is to match potential buyers and sellers of real estate according to characteristics desired by the buyer (e.g., price, location, property type). A secondary application is to match a potential buyer's financial requirements with the best available property loan. Another real estate information application is the use of homeowner databases (including details of financing) as direct marketing tools for financial services suppliers.

The most frequent users of real estate information in the U.S. are real estate agents and associations, Boards of Realtors, loan officers, attorneys, corporate site planners, real estate developers, tax assessors, and investors.

The following factors exert influence on the growth of real estate information services in the U.S.:

> The level of interest rates for real estate mortgage loans;

> Increasing computer sophistication of end-users;

> Reduction of the online information subscription base as Boards of Realtors consolidate to reduce operating expenses.

SUMMARY OF FINDINGS ON THE CANADIAN MARKET

Real estate information represented the least frequently mentioned of all information categories, either in electronic or other distribution media.

The major market is among real estate agencies. Here, the demand, buying power and influence created by either mergers or national franchising of independent agencies has created critical mass. As well, use of online listings is now essential to competitive client service.

Financial and lending institutions are also users of online real estate information, although to a lesser degree. Other economic sectors dependent on the housing and building construction market obtain real estate information via non-electronic delivery media.

Within large organizations, real estate information is typically used in combination with a wide range of other information types to meet specialized information needs.

Description of Respondents

	Phase I (N=57)		Phase II (N=77)	
	# of R	% of Cell	# of R	% of Cell
No. of Respondents	8	14	9	12
Job Category (Phase II)				
Librarian			0	0
Marketing			5	14
Finance			4	12
Economic Sector				
Bank and Trust Companies	2	40	*	
Construction & Building Materials			2	50
Consumer Electronics			1	20
Education & Non-profit	1	25	2	40
Energy/Fuel	1	33		
Investment Banking/Management/Brokerage	1	25	*	
Lodging & Food Service			2	29
Publishing/Printing	1	100		
Retailing			1	20
Transportation (Freight)			1	17
Transportation (Passenger)	1	50	*	
Other	1	100	*	
Total	8		9	
Average Rating (Phase II)			3.2	

* = Sector not included in Phase II

Other Categories of Information Used	Phase I	Phase II
Business Credit	X	
Corporate Information	X	X
Demographic	X	X
Economic	X	X
Foreign Exchange and Money Market		X
Legal	X	
Legislative & Government	X	X
News	X	X
Product Information	X	X
Product Movement	X	
Scientific	X	
Vertical Market/Operational	X	

Key Providers to This Group

Minimum No. of Mentions = 2

Because of the small number of users of real estate information identified in this study (8), all services that received multiple mentions represent "a 25% share". These services include: Info Globe, FP Online, Infomart, Mead Data, Dialog, CSG, Dun & Bradstreet, CAN/OLE, Textline, Dow Jones, and BRS.

Awareness of Key Vendors

Minimum No. of Mentions = 3

Dow Jones
Dun & Bradstreet
FP Online
Info Globe
Infomart

User Comments

Two users commented that the optimal system would allow for each company to structure the information according to its particular needs. Another user would like to see a simpler command structure.

6.2.16 Scientific Information

U.S. MARKET PERSPECTIVE

Scientific information includes indexes, citations, abstracts, numerical data, and increasingly the full text of writings and reference materials on life sciences (with emphasis on biomedical science, pharmaceuticals, and health care in general), chemistry, earth science, physical sciences, social science & the humanities.

Most of the scientific information services are bibliographic or referral in nature and are still used primarily by research specialists.

The information services cover a wide range of scientific disciplines. Corporate and institutional purchasing patterns for scientific information vary greatly. Large corporate purchasers may have small information centers with little usage of scientific research databases, or just the reverse. Some companies have organized large departments to research scientific fields such as environmental science, but have little knowledge of electronic information services. All of the disciplinary and interdisciplinary scientific information vendors are supported by a core of high-use customers, as well as by an extremely heterogeneous secondary market.

The largest category of users in the U.S. is librarians and information specialists, accounting for anywhere from 30% to 100% of service usage. Health professionals are a distant second, typically representing 6-15% of service revenues.

Scientists and researchers form a barely quantifiable market for most science services. Lawyers and engineers use a number of services, generally to a lesser degree. The most successful distributors to end-user professionals are highly specialized services.

The key factors having the greatest influence on sales of scientific information are as follows:

> R&D budgets set by the U.S. government, by Western Europe, and others;

> Federal funding and grants for technology transfer, for academia, for research by individuals and institutions; also indirect government funding which, when cut, squeezes non-corporate librarians;

> The health of the overall economy;

> The information budgets of librarians and information specialists at a time when staff resources are shrinking;

> Corporate budgets for R&D;

> The cost of information resources and the price of applying electronic information services;

> Demand for information services by emerging professional, consumer, and line-management end-users;

> Escalation of knowledge workers' salaries;

> The installed base of communicating terminals and the familiarity of the market with online services;

> Training, marketing, and promotion resources.

> Impact of CD-ROM and other portable media;

> Perceived difficulty of use;

> Malpractice insurance premiums, the regulation of health care fees, and escalating hospital and physician fees, all of which are having a positive effect on the need for medical information;

> Increasing foreign competition;

> Emergence of integrated office information systems.

SUMMARY OF FINDINGS ON THE CANADIAN MARKET

Use of online scientific information was focussed in high tech, chemical & drugs, food & beverage, manufacturing and education/non profit sectors. As in the U.S., librarians appear to constitute the largest group of users.

U.S. based vendors are targeting the professional end-user market, and as a result, are developing software enhancements to make their services easier to use. Several users noted that U.S. databases are improving at a faster pace than Canadian-based sources.

Canadian users are not a "captive market" for Canadian-based vendors. Unlike other categories of information, there was no expressed demand for uniquely Canadian scientific databases. Although there are no doubt exceptions, it is typically perceived as an international subject. Thus, if use of Canadian sources is going to be maintained at present levels, enhancements are required to make these sources more competitive with those available through U.S.-based vendors.

Description of Respondents

	Phase I (N=57)		Phase II (N=77)	
	# of R	% of Cell	# of R	% of Cell
No. of Respondents	22	39	11	14
Job Category (Phase II)				
Librarian			3	50
Marketing			5	14
Finance			3	9
Economic Sector				
Aerospace/Aviation	1	100	*	
Agriculture	1	50	2	25
Banks and Trust Companies	1	20	*	
Chemical & Drugs	2	100	*	
Construction & Building Materials	1	100	1	25
Consumer Electronics			1	20
Containers & Packaging			1	25
Education & Non-profit	4	100	2	40
Energy/Fuel	2	67		
Food & Beverage	3	100	*	
Health Care			2	33
Household & Personal Care Products			1	17
Investment Banking/Management/Brokerage	1	25	*	
Metals & Metalworking & Machinery	2	100	*	
Paper & Forest Products	2	100	*	
Telecommunications	1	100		
Transportation (Freight)			1	17
Transportation (Passenger)	1	50	*	
Total	22		11	
Average Rating (Phase II)			4.1	

* Sector not included in Phase II

	Phase I	Phase II
Other Categories of Information Used		
Business Credit	X	
Corporate Information	X	X
Demographic		X
Economic	X	X
Legislative & Government	X	X
News	X	X
Patents & Trademarks	X	
Product Information	X	X
Product Movement		X

Key Providers to This Group

Minimum No. of Mentions = 6

- CAN/OLE
- Dialog
- Info Globe
- Infomart

In addition, 11 other services received multiple mentions.

Awareness of Key Vendors

Minimum No. of Mentions = 3

- Info Globe

Only Info Globe was familiar to at least three Phase II respondents who used scientific information.

User Comments

One user indicated dissatisfaction with CAN/OLE's commands. He felt they were too difficult for the occasional user, and especially in contrast to Medline, which he found much more user-friendly.

A heavy scientific user stated that he currently uses 10% Canadian versus 90% foreign databases and expects that his use of Canadian databases will decline.

6.2.17 Securities Information

U.S. MARKET PERSPECTIVE

Securities information includes both real time and delayed pricing as well as related intra-day technical information produced by a variety of analytical functions. Financial instruments include corporate and municipal debt (bonds), equities (stocks), mortgage-backed securities, associated instruments, and contracts such as futures and index options.

Day-end and historical-securities-pricing information is the fundamental corporate & historical pricing section, and government and treasury securities fall within the foreign exchange and money market section.

Users of securities information in the U.S. range from institutional and retail brokers to fund managers, individual investors, and the stock exchanges themselves. Securities information services are used to monitor the performance of securities markets and their component issues.

The growth of the financial services industry as a whole is the greatest influence on the revenues of securities information services in the U.S. More specifically, growth can be attributed to:

> Growth in the amount of funds under professional management;

> New brokerage business entrants (from commercial banks, insurance companies, and mutual funds);

> Growth in the size of securities markets through increased securitization of debt and the placement of new issues.

The performance of securities markets was also widely regarded as a key growth factor. Market trend and market volume are both thought to have a direct relationship to the revenues of securities information vendors.

SUMMARY OF FINDINGS ON THE CANADIAN MARKET

In the U.S., major acquisitions are taking place in an aggressive battle to gain share of this lucrative market. The Canadian industry has also experienced similar shake-up, with three Canadian-based vendors, including two key brokerage service vendors, purchased by these mega-companies.

In brokerage services, CMQ (Autoquote) -- considered a major player in the North American market -- was purchased by Telerate. Dataline (Canquote) was bought by Mead Data. According to news sources, CMQ has more than 60% of the Canadian brokerage market, and Dataline has more than 30%.

In other securities information services, IP Sharp has been purchased by Reuters, who had already made a move to enter the North American securities information market with the acquisition of Institnet in the U.S..

Certainly, the loss of these leading Canadian companies to foreign ownership is viewed with mixed emotions. However, more realistically, it follows the trend of the globalization of international trading centres that is currently taking place, and provides for an infusion of cash in an extremely competitive, R&D-intensive marketplace.

Description of Respondents

	Phase I (N=57)		Phase II (N=77)	
	# of R	**% of Cell**	**# of R**	**% of Cell**
No. of Respondents	16	28	20	26
Job Category (Phase II)				
Librarian			0	0
Marketing			2	5
Finance			18	53
Economic Sector				
Agriculture			2	25
Banks and Trust Companies	4	80	*	
Chemical & Drugs	1	50	*	
Construction & Building Materials			2	50
Containers & Packaging	1	100	2	50
Education & Non-profit			3	60
Energy/Fuel	1	33	1	50
Entertainment			1	25
Food & Beverage	1	33	*	
Health Care	1	50	3	50
Industrial Conglomerates			2	67
Insurance	1	25	*	
Investment Banking/Management/Brokerage	3	75	*	
Legal & Accounting Services			3	60
Lodging & Food Service			1	14
Metals & Metalworking & Machinery	2	100	*	
Publishing/Printing	1	100		
Total	16		20	
Average Rating (Phase II)			3.6	

* Sector not included in Phase II

Other Categories of Information Used	**Phase I**	**Phase II**
Business Credit	X	
Corporate Information	X	X
Economic	X	X
Foreign Exchange and Money Market	X	X
Legal	X	X
Legislative & Government		X
News	X	X
Product Information	X	

Key Providers to This Group

Minimum No. of Mentions = 4

CSG
Dialog
Dow Jones
Dun & Bradstreet
FP Online
Info Globe
Infomart

Specific securities databases mentioned include both CMQ and Canquote.

Awareness of Key Vendors

Minimum No. of Mentions = 5

CSG
Dow Jones
Dun & Bradstreet
FP Online
Info Globe
IP Sharp

User Comments

Users generally indicated that they would like to see more Canadian securities information online. One user stated that a service they use promised Canadian securities information but has not followed through. Users would like to see a package through which they could search all securities information without accessing many different databases. There was also some concern with the "cleanliness" of the data currently available.

6.2.18 Vertical Market/Operational Information

U.S. MARKET PERSPECTIVE

Vertical market operation (VMO) information subsumes databases from several different industries, including transportation, energy, insurance, library, health care, construction, agriculture, and automotive.

Vertical market/operational information includes two main groups of electronic information products:

> Databases which were originally developed to support or to monitor the operations of a specific vertical market or industry. In this context, "operational" information means information which is a by-product of the operations of an industry or vertical market; that is, the information itself is not the end product of the industry, but serves to support or to monitor a productive function of the industry. Several of these services also have a transactional component.

> Also included are miscellaneous information types (not defined elsewhere and specifically directed at the external information needs of selected vertical markets) which are too small to continue to be treated as independent categories. Included here are the information segments of energy, construction, farming information services, transportation, library, and medical.

The latter category above constitutes by far the smaller portion of the overall VMO information category.

Some of the largest VMO information services in the U.S. (such as the airline reservation systems SABRE, APOLLO, and PARS) were not included in earlier LINK forecasts because they were not marketed outside their primary industry group and because they were less widely perceived as profit centers. Now that user-friendly versions of the reservation systems (such as EasySabre and TravelShopper) have been combined with related product information (hotels, rental cars) and are being marketed to a wide variety of end-users, they must be included as electronic information services.

In most cases, the development of vertical market operational information services follows a recognizable pattern:

> A group of operating units in the same industry or vertical market share a common need for collection, processing, and/or access to operational information;

> Operational information is systematically collected from or contributed by participants in a specific industry;

> A separate subsidiary or third party is established to serve as the operational information caretaker/distributor. The information collector/distributor sells the information (in a value-added form) back to the industry or market participants which generated it;

> By virtue of the value-added processing it has undergone, the vertical market operational database becomes accessible and useful to related industries and markets. In many cases, substantial incremental income is generated by the secondary users of VMO databases. For example, VMO databases generated by the passenger transportation industry become useful to the travel and aerospace industries. Automotive databases become useful to the insurance industry for collision estimating. Construction industry databases become accessible to

banks, insurance companies, and real estate interests.

Vertical market operational information databases may follow this pattern more or less closely and may be at any stage of this development. There is also considerable diversity in terms of the extent of value-added processing, the degree of automation, and the closeness with which the database is integrated into the operations of the primary information providers.

VMO information services which are established as independent profit centers (rather than as elements of cost structure) and are offered commercially become eligible for inclusion as electronic information services.

Today, VMO information services in various stages of development are increasingly being recognized and cultivated as independent profit-making entities. This is the result of a continuing proliferation of information processing expertise and technology among service and manufacturing industries whose primary business is not information.

Vertical market operational services encompass a wide spectrum of applications, including reservation systems, pharmacy management, auto collision claims processing, freight rates with optimum routes, and library cataloguing & interlibrary lending.

Likewise, the users of these services in the U.S. span several vertical markets. They include shippers, travel agents, traffic managers, freight rate analyzers, truck dispatchers, automobile dealers, auto body repairmen, claims estimators, insurance adjustors, after parts suppliers, faculty members, bankers, production and design engineers, inventors, appraisers, county assessors, loan officers, state tax authorities, pharmacists and pharmaceutical retailers.

The software is equally focussed to provide such things as freight bill audits, personal computer ratings, mapping, production data management, and office management. Industries include soft goods manufacturing, retailing, agriculture, drugs and chemicals, telecommunications, and office equipment in addition to the industries obviously associated with the jobs and software mentioned above.

Although all of these services are available online, many are also provided on magnetic tape, interactive voice, floppy disks, hard disks, and paper.

Key U.S. Trends by VMO

The most discrete submarkets within the vertical market/operational type are transportation, automotive, library, and energy. Others include construction, agriculture, health care, and pharmacy management.

Transportation

The following factors have the greatest impact on the growth of VMO transportation information services in the U.S.:

> Deregulation of airlines and trucking industries resulting in increased competition and more volatile pricing data;

> Consolidation of airline industry leading to increased efficiency of airlines passenger reservations marketplace;

> Expansion of satellite communications networks to provide 24-hour worldwide coverage for air/land/sea tracking of cargo;

- > Increasing user sophistication for truck and auto routing;
- > Growth in personal computer penetration for cargo tracking applications;
- > Increased cost efficiency of CD-ROM (in combination with writable media) for truck and auto routing applications;
- > Budget cutbacks by the federal government which may adversely affect the aerospace industry.

Library Services

The following factors have the greatest impact on the growth of VMO library information services in the U.S.:

- > Increasingly easy to use communications software;
- > Standards being set and pooled data being shared among libraries;
- > Decreasing cost for terminals and modems;
- > Increased end user searching with fixed-price, hard-disk or CD-ROM at lower cost than available online;
- > Increased demand for CD-ROM and digital videodisc (and CDI) by reference departments of small and public service libraries;
- > Cost savings for end-user by moving off large systems onto local area networks and linked gateways;
- > High cost of telecommunications;

> Move towards in-house publishing by institutions;

> Competition from CD-ROM sales;

> Increased cost for currently free government information due to federal government cost recovery policies.

Automotive

The following factors have the greatest influence on the growth of VMO automotive information in the U.S.:

> Increasing user sophistication with computerization for auto insurance applications;

> Poor weather and higher speed limits increase auto accident rates and the demand for auto collision estimating databases;

> Low user awareness of potential benefits of electronic access to data in the auto body repair market.

Energy

The following factors have the greatest impact on the growth of energy industry information services in the U.S.:

> Low oil prices and industry contraction reduces demand for computerized information;

> Low user awareness of potential benefits of electronic access to oil drilling data.

SUMMARY OF FINDINGS ON THE CANADIAN MARKET

The use of VMO information, either online or via other distribution media, has not developed to the same extent in Canada as in the U.S..

In the U.S. analysis, this category captured miscellaneous information types not defined elsewhere and specifically directed at the external information needs of selected vertical markets. In Canada, major electronic information services and major Canadian-based industry leaders are (for the most part) captured in the above categories. The obvious exceptions include passenger transportation, agricultural, and library systems

There are fixed costs associated with the development of electronic information services, which do not vary whether the information will be sold to hundreds or thousands. In the U.S., there is a much larger market base for specialized, vertically targeted information that can share these costs. Canadian vendors will continue to fight against the problem of limited market size in developing cost-effective, specialized electronic information alternatives.

Description of Respondents

	Phase I (N=57)		Phase II (N=77)	
	# of R	% of Cell	# of R	% of Cell
No. of Respondents	17	30	18	23
Job Category (Phase II)				
Librarian			2	33
Marketing			10	27
Finance			6	18
Economic Sector				
Advertising Agencies/Market Research	2	40	*	
Agriculture	1	50	1	13
Banks and Trust Companies	3	60	*	
Chemical & Drugs	1	50	*	
Construction & Building Materials			1	25
Containers & Packaging			2	50
Credit Card			1	100
Education & Non-profit	3	75	3	60
Entertainment			2	50
Health Care	2	100		
Household & Personal Care Products			1	17
Insurance	1	25	*	
Investment Banking/Management/Brokerage	- 1	25	*	
Lodging & Food Service			2	29
Publishing/Printing	1	100		
Retailing			2	40
Transportation (Freight)			3	50
Transportation (Passenger)	2	100	*	
Total	17		18	
Average Rating (Phase II)			3.3	

*** Sector not included in Phase II**

Other Categories of Information Used	**Phase I**	**Phase II**
Corporate Information	X	X
Demographic	X	X
Economic	X	X
Legislative & Government		X
News	X	X

Key Providers to This Group

Minimum No. of Mentions = 5

CAN/OLE
Dialog
Dun & Bradstreet
Info Globe
Infomart
Mead Data

In addition, nine other services received multiple mentions.

Awareness of Key Vendors

Minimum No. of Mentions = 5

Dow Jones
Dun & Bradstreet
FP Online
Info Globe
Infomart

User Comments

One major transportation information user stated that he is dissatisfied with the present necessity of searching several databases and would like to see a separate but complete air transportation database. He would also like the Canadian government to arrange for Dialog's aerospace database to be accessible to Canadians online. (It is currently available in Canada in print only.)

Another user of airline information stated that the availability of fare information is crucial and he would like to see a cooperative reservation system and cooperative industry-wide information on cargo.

There were no comments made by users specifically referring to library-oriented information. However, IDC learned that the National Library of Canada is working in the area of developing standard software for North American libraries.

One user stated from the agriculture sector stated that he would like to see more information online from Statistics Canada and the information should be easier to access and cheaper than that which is currently available.

A heavy user of health care information stated that the cost of this type of information is high and he encounters indexing problems. He also said that he would like to see more relevant Canadian databases, particularly for Canadian statistics. (He is currently using only U.S.). In general, he would like to see the following types of information: consumer health, health information for the non-professional, and health care administration.

Users across all vertical markets sugggested that there is poor access to government materials, Canadian management journals, material on human resources management, and information technology. As well, there is inadequate information available on engineering specifications and standards, especially international standards.

HD
9696
A3
C3245
1988
v.2

THE ELECTRONIC INFORMATION INDUSTRY IN CANADA

DATE	NAME OF BORROWER NOM DE L'EMPRUNTEUR

HD
9696
A3
C3245
1988
v.2

DATE DUE

AUG AOUT 23	1989		
NOV 2	1989		
DEC 2	1989		
DEC	5 1990		
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